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ABSTRACT

This publication presents results of a year-long research program initiated by the National Commission for Employment Policy to research and discuss the employment effects of the North American Free Trade Agreement (NAFTA). It contains the letter to the President in which the Commission endorses NAFTA because of its positive employment-creating effects and makes recommendations on worker adjustment assistance programs that address the adverse employment effects of NAFTA and on migrant and seasonal farmworker programs that address the short-term increases in Mexican immigration likely to result from NAFTA. Three commission-sponsored studies are appended. "A U.S.-Mexico-Canada Trade Agreement: Sectoral Employment Effects and Regional/Occupational Employment Realignments in the United States" (Robert Stern and others) reports a study to estimate changes in employment that will be required across sectors, occupations, and locations within the U.S. economy. Sectoral effects and employment changes are illustrated in 44 tables. "The Impact of the NAFTA on U.S. Regional and Sectoral Labor Markets" (DRI/McGraw-Hill) presents results of three simulation exercises designed to measure the potential impact of NAFTA on the U.S. economy and on employment levels within 9 U.S. geographical regions and 19 manufacturing and 6 nonmanufacturing industry sectors. Net impacts of gradual and nongradual scenarios are depicted in 94 tables. "NAFTA, Migration, and U.S. Labor Markets" (Philip Martin) reports an analysis of effects of NAFTA based on a qualitative assessment of three major factors responsible for Mexico to U.S. migration: demand-pull, supply-push, and network of friends and family. (YLB)

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THE EMPLOYMENT EFFECTS OF THE NORTH AMERICAN FREE TRADE AGREEMENT:
Recommendations and Background Studies

SPECIAL REPORT

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National Commission for Employment Policy

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THE EMPLOYMENT EFFECTS OF THE NORTH AMERICAN FREE TRADE AGREEMENT: Recommendations and Background Studies

Special Report No. 33

October 1992

National Commission for Employment Policy

PREFACE

The National Commission for Employment Policy initiated a research program in 1991 to examine current and emerging international issues affecting the workplace, employment, and training in the United States. The studies that we selected address the impact of selected external factors upon the U.S. workplace, labor markets, and employment as well as technology, competitiveness, worker migration and mobility, and trade and investment issues. A major focus of this research program has been on the worker dislocation and immigration effects of NAFTA.

The Commission spent much of the past year researching and discussing the employment effects of NAFTA. Staff research was supplemented by three Commission-sponsored studies and a site visit to Brownsville, Texas and Matamoros, Mexico to look at the employment, education, and immigration situation along the U.S.-Mexico border.

At its meeting on September 17, 1992, the Commission endorsed NAFTA because of its positive employment-creating effects and developed recommendations on (a) worker adjustment assistance programs that address the adverse employment effects of NAFTA and (b) migrant and seasonal farmworker programs that address the short-term increases in Mexican immigration that are likely to result from NAFTA. Our recommendations, as sent to the President and the Congress, follow the Table of Contents.

The Commission is very pleased that it is able to make this important contribution to the discussion on NAFTA. We hope that our focus on critical employment, immigration, and worker dislocation issues helps to expand the scope of the public policy debate away from arguing about numbers and towards putting in place a program that addresses the real needs of dislocated workers and immigrants.

John C. Gartland
Chairman

ACKNOWLEDGEMENTS

I would like to acknowledge the contribution of several people who contributed greatly to the Commission's deliberations and fact-finding on the employment effects of the North American Free Trade Agreement (NAFTA).

The Commission organized a committee to monitor its work on NAFTA. The committee was chaired by Commissioner Eduardo Aguirre, and included Commissioners Margot Machol and Roger Whyte and former Commissioners Fernando Niebla and Lynne Egge. The committee brought to the review process a unique blend of experience in international business, labor, and government. The project was directed by Commission Associate Director Neal S. Zank.

On behalf of the Commission and its staff, I would like to thank the authors of our sponsored research on NAFTA: Robert Stern, Alan Deardorff, and Drusilla Brown of the Institute for Policy Studies team at the University of Michigan; Francisco Javier Murcio of DRI/McGraw-Hill; and Philip Martin of the University of California at Davis.

I would also like to thank the individuals from several government agencies who reviewed the Commission's sponsored research. In particular, I would like to thank Elaine Brown of the Office of the United States Trade Representative; Daniel Sumner, Assistant Secretary for Economics, and Al French, Coordinator for Agricultural Labor Affairs, both at the U.S. Department of Agriculture; Lester Davis, Senior International Economist in the Office of the Chief Economist, and Rebecca Bannister, Special Assistant to the Under Secretary for Trade, both at the U.S. Department of Commerce; Edward Lynch, Director of the Office of Strategic Planning, Immigration and Naturalization Service, at the U.S. Department of Justice; Gregory Schoepfle, Assistant Director for Foreign Economic Research, Bureau of International Labor Affairs at the U.S. Department of Labor; Robin King, Economics Bureau at the U.S. Department of State; Jane-Yu Li of the National Security & International Affairs Division at the U.S. General Accounting Office; Clinton Shiells at the U.S. International Trade Commission; and Carol Romero, Robert Ainsworth, and Barbara Oakley of the Commission staff.

Finally, I would like to thank Robert Gonzales and Marie McDermott of the Brownsville Economic Development Council in Brownsville, Texas and those who took the time to meet with the Commissioners and staff who went to Brownsville, Texas and Matamoros, Mexico in June 1992 to look at the employment, education, and immigration situation along the U.S.-Mexico border. We visited manufacturing and maquiladora facilities in both Texas and Mexico; observed operations at the Port of Brownsville and other economic development activities in the region; and met with local educators and social service providers to discuss the education, job training, and immigration problems along the Texas-Mexico border.

Barbara C. McQuown
Director

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Institute of Public Policy Studies
University of Michigan
September 2, 1992

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DRI/McGraw-Hill
August 1992

APPENDIX C - *NAFTA, Migration, and U.S. Labor Markets*
Dr. Philip L. Martin, University of California, Davis
August 28, 1992

PART I

RECOMMENDATIONS

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NATIONAL COMMISSION FOR EMPLOYMENT POLICY
1522 K Street, NW, Suite 300
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Chairman

October 13, 1992

The President of the United States
The White House
Washington, D.C. 20500

Dear Mr. President:

Over the past year, the National Commission for Employment Policy has been examining the U.S. employment effects of the North American Free Trade Agreement (NAFTA) for the past year. At our meeting last month, the Commission wholeheartedly endorsed NAFTA because of its positive employment-creating effects. We also developed recommendations on (a) worker adjustment assistance programs that address the adverse employment effects of NAFTA and (b) migrant and seasonal farmworker programs that address the short-term Mexican immigration increases that will result from NAFTA. These recommendations are summarized below and detailed on the attached pages.

As I am sure you are aware, the Commission is an independent agency established under Title IV(f) of the Job Training Partnership Act. It is responsible for advising the President and the Congress on national employment and training issues. The Commission's 15 members are appointed to these voluntary positions by the President and serve in their capacity as business and labor leaders, human resource professionals, and state and local elected officials.

The studies that we conducted examine NAFTA's implications for U.S. employment and the workplace. NAFTA's economic impact will differ across regions in the United States depending upon specific regions' industry mix, proximity to Mexico and Canada, and export/import orientation. Overall, NAFTA will enhance and maximize opportunities for American workers and increase U.S. employment levels and wages. In addition to the employment generated by increased U.S. exports to Mexico from such sectors as services, electrical machinery, non-electrical machinery, and transportation equipment, many U.S. jobs will be created that are not directly involved with exports to Mexico and Canada (especially in the transportation, communications, and utilities sectors).

Nevertheless, our studies also confirm the belief that NAFTA will result in some level of employment dislocation. We are aware of concern in the United States that NAFTA will cause a possible fall in wages and employment levels in some sectors as labor is reallocated from labor-intensive to capital-intensive occupations and as some capital is relocated to Mexico due to lower Mexican wages and other factors. Our studies show that the worker dislocation effects of NAFTA appear to be very small, especially in comparison to the total U.S. labor force. One study concluded that approximately 166,500 workers (over 10 years) will be affected negatively by NAFTA, a displacement that accounts for less than one-tenth of one percent of 1989 U.S. total employment. While most of the workers displaced or dislocated as a result of NAFTA will be found in low-skilled jobs in labor-intensive industries, it is important to note that these industries will continue to reduce their U.S. labor force and take full advantage of the low costs in Mexico (and other countries) *regardless of whether NAFTA is approved.*

Although NAFTA does not formally change the barriers to migration, the amount of migration could be changed as NAFTA is implemented and alters the incentives to permeate those barriers. The Commission-sponsored study on immigration concludes that Mexican immigration to the United States will increase in the short-term. The medium and longer term immigration picture, however, is quite different. In combination with the legal and regulatory reforms and the privatization program currently underway in Mexico, the economic development that results from NAFTA will reduce unemployment and underemployment rates in Mexico and cause wages to rise (at a rate faster than that in the United States). This should decrease the rate of Mexico-to-U.S. migration during the first decade of the 21st century.

The Commission's recommendations to address the employment and dislocation effects of NAFTA, which are detailed on the attached pages, are summarized below.

o Worker dislocation would be best served by a program that merges selected features of the Trade Adjustment Assistance program and the Economic Dislocation and Worker Adjustment Assistance program into a single new program.

o The Administration should strongly oppose any form of fee, tax, or cross border transaction mechanism on NAFTA activities to finance job training programs.

o Worker adjustment assistance programs will not need a major infusion of new funds to respond to dislocations caused by NAFTA and non-NAFTA sources in the coming years; funding levels to address dislocation by those sources appear to be quite manageable in relation to the existing budget levels for current programs.

o The U.S. Government agencies responsible for migrant and seasonal farmworker (MSFW) programs need to (a) improve coordination of their policies and programs so that they can deliver a comprehensive set of services to these farmworkers and (b) develop a common framework for determining program eligibility.

- Existing MSFW job training and education programs should increase their focus on assuring that immigrant farmworkers have the English language skills needed to move into the U.S. economy beyond the agriculture sector.

We will share our studies with you as they become available in the next few weeks. A list of these studies follows the detailed discussion of our recommendations. We would welcome the opportunity to meet with you or your designee to offer our views on the employment implications of NAFTA, and to discuss our recommendations for addressing related issues.

Sincerely,

John C. Gartland

NATIONAL COMMISSION FOR EMPLOYMENT POLICY RECOMMENDATIONS ON THE EMPLOYMENT EFFECTS OF THE NORTH AMERICAN FREE TRADE AGREEMENT

STRUCTURING WORKER ADJUSTMENT ASSISTANCE PROGRAMS

o ***The Commission believes that problems of worker dislocation would be best addressed by a program that merges the best features of TAA and EDWAA into a single new program.***

A key issue in the Congressional debate on NAFTA is whether the two major existing programs for worker adjustment assistance (Trade Adjustment Assistance (TAA) and the Economic Dislocation and Worker Adjustment Assistance (EDWAA)) meet the needs of dislocated workers (either in their present form or as a combined program, or whether an entirely new program is needed.

There appears to be a consensus among those involved in administering and analyzing the existing adjustment assistance programs that providing assistance for job search is the most cost-effective way of accomplishing the reemployment of displaced workers. Yet assistance for worker training has a great deal of appeal, and there may in fact be cases in which workers would benefit from special, longer term training in basic skills and in the acquisition of new skills. To undertake this training, some workers may need financial support beyond that provided by Unemployment Insurance.

The Administration and Congress should take the appropriate actions to ensure the most cost-effective use of the scarce resources available for worker adjustment assistance. The combination of EDWAA's worker retraining, job counseling, and long-term placement with TAA's income maintenance and relocation aid is philosophically appealing. It addresses the immediate needs of dislocated workers while providing a long-term solution to their dislocation situation. There is also a strong argument for linking income maintenance payments to participation in training programs.

This proposed approach complements the transition period and safeguard provisions that were negotiated into NAFTA and is consistent with the pledge made by President Bush in May 1991 to consider "adequate assistance and effective retraining for dislocated workers." The approach is based upon three principles: (a) ensuring that workers who may be displaced by NAFTA are provided with comprehensive adjustment and income assistance and training opportunities; (b) promoting cost-effectiveness in the administration of dislocated worker programs at the federal, state, and local levels; and (c) eliminating the inconsistencies inherent in having multiple programs addressing the same problem, but providing different types of benefits depending on the reason for a worker's dislocation.

- ***The Commission does not believe that worker adjustment assistance programs will need a major infusion of new funds to respond to dislocations caused by NAFTA and non-NAFTA sources.***

Funding levels to help mitigate wage losses that might arise from NAFTA and other sources would appear to be quite manageable in relation to the existing budget magnitudes for current programs. Comprehensive coverage for workers dislocated by NAFTA and other sources under the Commission's proposed approach can be achieved for an amount that is between the cost of two scenarios below. The proposed approach should yield considerable administrative efficiencies and cost savings by reducing overhead and the overlap in beneficiaries that exists under the current program structure (i.e., the first scenario). The higher costs associated with this approach as opposed to the second scenario occurs because the average cost per beneficiary would be higher in a program that included income maintenance.

If EDWAA and TAA are retained as separate programs, one Commission-sponsored study concluded that approximately 166,500 workers (over 10 years) will be affected negatively by NAFTA. If one averages that number over 10 years and then adds the 16,650 annual level of NAFTA-related dislocation to DOL's estimate of dislocation resulting from non-NAFTA sources (covering 257,800 workers), the annual average of level of dislocated workers from NAFTA and non-NAFTA sources over the next 10 years would be 274,450. Combining Commission calculations on worker adjustment assistance funding with DOL's FY 1993 (pre-ASETS) projections for EDWAA and TAA ($788.2 million) to arrive at an annual level of $836 million to address the needs of 274,450 dislocated workers over 10 years. (Relying upon a different approach and different assumptions under this same scenario, another Commission-sponsored study projects an annual average of $834 million for dislocation from NAFTA- and non-NAFTA sources to address the needs of 338,000 workers during the 1993 - 2000 period.)

If TAA recipients were transferred into EDWAA and the TAA program and benefits were terminated, one Commission study projected the annual cost of worker adjustment assistance for NAFTA and non-NAFTA dislocation to be $583 million, covering an annual average of 330,000 workers over the 1993 - 2000 period. This is the lowest cost scenario because of the lower expenditure per worker that is found in the EDWAA program (compared to TAA) and to the overlap in workers served by the two programs.

- ***The Commission strongly opposes the use of any form of fee, tax, or cross border transaction mechanism on NAFTA activities to finance job training programs.***

Cross border transactions taxes contradict the benefits of tariff reduction. The use of one such mechanism for any purpose opens the door to a variety of similar special taxes for all sorts of possible reasons. Worker adjustment assistance should continue to be funded from general revenues.

COORDINATING AND REFOCUSING MIGRANT AND SEASONAL FARMWORKER PROGRAMS

- ***The U.S. Government agencies responsible for migrant and seasonal farmworker programs need to (a) improve coordination of their policies and programs so that they can deliver a comprehensive set of services to these farmworkers and (b) develop a common framework for streamlining eligibility requirements and formulating standard definitions for determining program eligibility.***

The Federal Government now spends over $600 million annually on 13 programs that provide education, training, and health care services for migrant and seasonal farmworkers (MSFWs) and their families. Although MSFW programs initially served only migrant farmworkers who crossed state lines, they have since been expanded to assist seasonal farmworker and other groups that increasingly include recently-arrived Mexican immigrants. These MSFW programs evolved separately over the years, and are managed through a network of shared responsibility among federal, state, and local agencies. Although management of MSFW programs has been turned over to the states, these programs continue to have extensive federal involvement in the local delivery of services, largely because of the assumption that most MSFWs continue to migrate across state lines.

Each program has a different set of eligibility criteria for participation. These differences are confusing to farmworkers, and lead each program to employ its own outreach and recruitment staff and to use its own intake forms. Furthermore, there is usually no assurance that farmworker services are co-located or coordinated in other ways, so that a worker wanting services may have to travel long distances between different administrative agencies and service providers.

- ***Existing job training and education MSFW programs should increase their focus on assuring that immigrant farmworkers have the English language skills needed to move into the U.S. economy beyond the agriculture sector.***

Although NAFTA does not formally change the barriers to migration, the amount of migration could be changed as NAFTA is implemented and alters the incentives to permeate those barriers. Some observers expect that the increased economic interactions between the United States and Mexico in other dimensions will make it easier for workers to cross the border. The Commission-sponsored study on immigration concludes that Mexican immigration to the United States will increase in the short-term, *whether or not a NAFTA is approved*, for three reasons: increased demand for farmworkers in the United States; job displacement in Mexico due to the elimination of protection for Mexican farmers; and the acceleration of existing migration patterns in Mexico that will bring more displaced Mexican workers to border areas that are highly accessible to the United States. Our study indicates that 4 to 5 million legal and illegal Mexican immigrants will come to the United States during the 1990s without NAFTA. If NAFTA is implemented, an estimated 100,000 to 120,000 additional Mexican immigrants will come to the United States annually during the 1990s (on top of the annual level of 400,000 immigrants).

The medium (5 to 10 years) and longer term immigration picture, however, is quite different. In combination with the legal and regulatory reforms and the privatization program currently underway in Mexico, the economic development that results from NAFTA will reduce unemployment and underemployment rates in Mexico and cause wages to rise (at a rate faster than that in the United States). This should decrease the rate of Mexico-to-U.S. migration during the first decade of the 21st century.

With or without NAFTA, U.S. agriculture is likely to employ about 2.5 million hired workers annually during the 1990s. Approximately 200,000 to 300,000 leave the farm workforce annually; most move into U.S. nonfarm labor markets lacking the English language skills needed for success there. Migrant farmworker programs should be more responsive to these farmworkers' longer term economic needs and opportunities.

NATIONAL COMMISSION FOR EMPLOYMENT POLICY STUDIES ON THE EMPLOYMENT EFFECTS OF THE NORTH AMERICAN FREE TRADE AGREEMENT

The Impact of the North American Free Trade Agreement
on U.S. Regional and Sectoral Labor Markets
DRI/McGraw-Hill
Lexington, Massachusetts
August 1992

A U.S.-Mexico-Canada Free Trade Agreement:
Sectoral Employment Effects and Regional/Occupational
Employment Realignments in the United States
Institute of Public Policy Studies
University of Michigan
Ann Arbor, Michigan
September 2, 1992

NAFTA, Migration, and U.S. Labor Markets
Dr. Philip L. Martin
University of California at Davis
Davis, California
August 28, 1992

PART II

APPENDICES

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APPENDIX A

A U.S.-MEXICO-CANADA FREE TRADE AGREEMENT: SECTORAL EMPLOYMENT EFFECTS AND REGIONAL/OCCUPATIONAL EMPLOYMENT REALIGNMENTS IN THE UNITED STATES

ROBERT M. STERN, UNIVERSITY OF MICHIGAN (PROJECT DIRECTOR)
ALAN V. DEARDORFF, UNIVERSITY OF MICHIGAN
DRUSILLA K. BROWN, TUFTS UNIVERSITY

SEPTEMBER 2, 1992

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FINAL REPORT

A U.S.-Mexico-Canada Free Trade Agreement: Sectoral Employment Effects and Regional/Occupational Employment Realignments in the United States

Robert M. Stern, University of Michigan
Alan V. Deardorff, University of Michigan
Drusilla K. Brown, Tufts University

Executive Summary

The purpose of this study is to estimate the changes in employment that will be required across sectors, occupations, and locations within the U.S. economy as a result of a North American Free Trade Agreement (NAFTA). Such changes will undoubtedly occur as reduced trade barriers among the members of a NAFTA—the United States, Canada, and Mexico—cause expanded trade among them and the need for certain industries to expand and for others to contract. These changes could also prove costly to the workers involved, to the extent that they find it difficult to transfer from declining to expanding sectors. Since it may fall to the U.S. government to assist workers in this process of adjustment, it is important to estimate not only where that adjustment will be needed, but also what the attendant costs will be. This study, therefore, provides such estimates and examines the feasibility of meeting these needs within the existing programs of labor adjustment assistance in the United States.

The study is based on results from a so-called computable general equilibrium model that includes the United States, Mexico, Canada, 31 other major trading countries combined, and the rest of world. For each country/region, the model contains 23 sectors that are engaged in international trade and 6 sectors (including government) that have no trade. The model uses base year data for 1989.

A series of experiments has been run to calculate the sectoral employment effects for the United States on an economy-wide basis. These experiments include: (1) a

NAFTA involving removal of bilateral tariffs among the United States, Mexico, and Canada; (2) removal of bilateral tariffs and relaxation of nontariff barriers (NTBs) between the United States and Mexico only; and (3) removal of bilateral tariffs between the United States and Canada only. In addition, experiments have been run to take into account possible changes in foreign direct investment in Mexico and cross-border movements of workers between Mexico and the United States. The results suggest that a NAFTA will have positive overall benefits for the United States, Canada, and Mexico, and that there will be relatively little displacement of U.S. workers. Real wages rise in Mexico relative to the United States, thus narrowing somewhat the Mexican-U.S. wage gap. However real wages also rise in the United States itself due to an improvement in the U.S. terms of trade.

The displacement of U.S. workers that may occur with a NAFTA is calculated at the sectoral level for each of the experiments assuming that total employment for the country as a whole is held fixed by adjustment of the economy-wide wage. Displacements is measured as the sum of job losses in parts of the economy where employment declines. By assumption this is matched by an equal number of new jobs elsewhere in the economy so that there is no change in aggregate employment. Using estimates of the duration of unemployment and wage losses from the Survey of Displaced Workers, the wage losses for American workers are calculated at the sectoral level. These calculations provide an indication of the amount of adjustment assistance that may be needed for workers who are displaced by a NAFTA. Further details on worker displacement and wage losses are provided on a regional and state basis.

A measure of labor market dislocation across sectors is calculated to represent the number of workers who would have to shift employment from contracting to expanding sectors. The results are that at most 55,760 workers would be dislocated by a NAFTA over a ten year period in which bilateral tariffs would be removed. If, in addition, allowance is made for an expansion of foreign direct investment in Mexico, 76,620 U.S.

workers would be dislocated over ten years. These dislocations are very small in the aggregate, accounting for less than one-tenth of one percent of 1989 U.S. total employment. Furthermore, when labor market dislocation is measured by the number of U.S. workers who might have to change occupation and/or move across regions or states as well, the dislocations are all considerably smaller than the intersectoral dislocations noted. When cross-border migration is taken into account, on the other hand, the intersectoral dislocations are somewhat larger. In all cases, however, the worker dislocation associated with a NAFTA appears to be very small in comparison to the total U.S. labor force and in comparison to the sectoral/regional/state employment levels. This is even more the case when the labor-market dislocation effects are expressed in annual terms to take into account the fact that a NAFTA would be phased in over a period of a decade or maybe even longer.

The calculation of lost wages due to a NAFTA suggests an upper bound of $40 million annually for a period up to ten years without cross-border migration and $80 million annually for a period up to ten years when cross-border migration is taken into account. If the income support of displaced workers due to a NAFTA were set equal to 37 percent of the pre-displacement wage, as was the case for displaced workers in 1990, the upper bound for adjustment assistance needed would be between $15 and $30 million annually for a period of ten years. Alternatively, taking into account the actual number of workers certified for Trade Adjustment Assistance (TAA) and economic dislocation and Worker Adjustment Assistance (EDWAA) in fiscal 1990 and the expenditures per ten years would be required for assistance to workers dislocated as a result of a NAFTA. These amounts appear to be quite small in relation to recent total U.S. expenditures on labor market programs of all kinds, including TAA and EDWAA.

A review of the design and operation of current U.S. labor market policies and programs that deal with worker dislocation suggests combining the best short-term job search and other features of EDWAA with the somewhat longer-term income support and retraining features of TAA. These programmatic changes would be desirable in order to provide greater certainty of adjustment assistance and training opportunities for those workers who may be displaced by a NAFTA.

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FINAL REPORT

A U.S.-Mexico-Canada Free Trade Agreement: Sectoral Employment Effects and Regional/Occupational Employment Realignments in the United States

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I. Introduction

The purpose of this study is to estimate the changes in employment that will be required across sectors, occupations, and locations within the U.S. economy as a result of a North American Free Trade Agreement (NAFTA). Such changes will undoubtedly occur as reduced trade barriers among the members of a NAFTA—the United States, Canada, and Mexico—cause expanded trade among them and the need for certain industries to expand and for others to contract. These changes could also prove quite costly to the workers involved, to the extent that they find it difficult to transfer from declining to expanding sectors. Since it may fall to the U.S. government to assist workers in this process of adjustment, it is important to estimate not only where that adjustment will be needed, but also what the attendant costs will be. This study, therefore, provides such estimates and examines the feasibility of meeting these needs within the existing programs of labor adjustment assistance in the United States.

Negotiations for a U.S.-Mexico-Canada Free Trade Agreement were initiated following the Congressional approval of "fast track" negotiating authority in late May 1991. These negotiations were completed in August 1992. The prospective NAFTA is an historic moment because it provides an opportunity to enhance the aggregate economic welfare of the three nations involved. The gains in welfare will come from a variety of sources that will be mutually reinforcing: (1) improved allocation of resources and lower prices to consumers and business firms; (2) realization of economies of large scale production in manufacturing; (3) reductions in transactions costs and in the uncertainty of government policies; and (4) dynamic changes resulting from improvements in the business environment, added investments in physical and human capital, and technological progress. There will also be significant noneconomic benefits from a NAFTA as the three nations are drawn more closely together politically and are thus better able to pursue common interests among themselves as well as globally.

Although there currently exist other free trade areas (FTAs) elsewhere, an agreement between the United States and Canada on the one hand and Mexico on the other hand presents some unique challenges due to the great disparities between Mexico and the other two countries in income levels, resource endowments, and environmental, health, safety, and labor laws and standards. Special fears in the United States and Canada concerning a NAFTA include a possible fall in wages, welfare losses from significant reallocation of labor from labor-intensive to capital-intensive occupations, and capital relocation to Mexico due to lower Mexican wages and ostensibly more lax labor standards. Concern has also been expressed that a NAFTA might result in environmental degradation due to the inadequate enforcement of environmental regulations in Mexico and to the possible shift of investment to Mexico to avoid the more stringent and costly regulations in the United States and Canada. In light of the foregoing considerations, it is useful to evaluate the overall impact of a NAFTA, identify those groups of workers, industries, and geographic regions that may experience difficulties in adjusting to the changes brought about by a NAFTA, and devise policies that will help to ease the transition.

The purpose of this study is to provide some estimates of the sectoral employment effects and the regional/occupational employment realignments that may occur in the United States as a consequence of a NAFTA. The various U.S. policy options for worker adjustment assistance that may be pertinent to the implementation of a NAFTA are also assessed. The study concentrates in particular on the effects of the elimination or reduction of trilateral NAFTA tariffs, nontariff barriers (NTBs), investment restrictions among the United States, Mexico, and Canada, and changes in cross-border migration. There are several additional issues, though, that may be quite important in the NAFTA negotiations but that lie outside the scope of the study. These include: (1) new and possibly more liberal and transparent rules and procedures involving trilateral trade and investment in automobiles and parts; (2) access to energy products; (3) different types of services (e.g., banking, financial services, trucking, etc.); (4) arrangements for the settlement of disputes that might arise in trilateral trade and investment relations; and (5) the effects of differences in labor standards and environmental regulations and enforcement in Mexico as compared to the United States and Canada.

It must be emphasized that the study is an analysis *only of the effects of the NAFTA itself.* Many other changes are already underway in the economies involved, especially in Mexico, that are also causing changes in patterns of employment across the United States. In particular, the liberalization of the economic environment within Mexico is already causing that economy to grow and to restructure itself in a variety of ways that are changing its volume and pattern of trade with the United States. These changes and their implications for employment are not included in the present analysis, for they are already occurring and presumably will continue with or without the NAFTA. The analysis therefore, if it leads to results that sometimes appear to be surprisingly small, does so because the NAFTA itself may be of only relatively minor importance compared to the many other changes that are occurring independently.

In this context it must be understood that the results to be reported below, especially for changes in employment, are not forecasts of the employment changes that will actually occur over the future. Many such changes will occur for reasons other than the NAFTA, and these could well be much larger than the ones reported here. *The changes presented in this study as due to the NAFTA should be understood accordingly as being relative to what would happen otherwise if the NAFTA were not put in place.*

II. Analyzing the Economic Impact of a NAFTA

Before proceeding with the analysis, it is useful to identify the qualitative implications of a NAFTA for the United States, Mexico, and Canada. Mexico is, of course, labor abundant relative to the United States and Canada. Therefore it is to be expected that trade liberalization will stimulate production of the labor-intensive sectors in Mexico and shift labor into the capital-intensive sectors in the United States and Canada.[1] Productive resources will then presumably be allocated more efficiently as compared to the pre-NAFTA position as each nation specializes in the production of tradable goods in which it has a comparative advantage. Welfare improvement for each country as a result of NAFTA liberalization thus appears likely.

There may of course be transition costs once an agreement is in place, but these costs are not expected to be large, particularly for the United States. What is important to note is that the Mexican economy is so much smaller than the U.S. economy. It thus appears unlikely that even a substantial percentage increase in Mexican exports to the United States would noticeably alter U.S. production levels in most sectors, including such sensitive sectors as agriculture and clothing.

The impact of a NAFTA on the terms of trade — that is, the relation between export prices and import prices — will also play a key role in determining the welfare effects for the countries involved. The NAFTA countries can be expected to enjoy a terms-of-trade gain at the expense of the rest of the world insofar as intra-NAFTA trade will increase. The reason is that the NAFTA countries will reduce supply to and demand from the rest of the world, thereby worsening the latter's terms of trade. Within NAFTA, the countries that reduce their trade barriers the most will tend to experience a deterioration in their terms of trade. Since, as will be noted below, U.S. tariffs facing both Mexico and Canada are comparatively low, the United States may experience a terms-of-trade gain relative to its two NAFTA trading partners.

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[1] This tendency for shifting resources based on factor intensity will not hold, however, for every individual sector. Sectoral changes will depend on the particular trade barriers that are in place and the extent to which they are removed in a NAFTA. Thus, for example, while one would expect most labor-intensive sectors in Mexico to expand, particular labor-intensive sectors that happen to face low protection abroad, or high protection that is not removed, may not share in this expansion.

Beyond the conventional welfare gains from sectoral specialization and the effects stemming from changes in the terms of trade, trade liberalization brought about by a NAFTA may have a "pro-competitive" effect on domestic firms, resulting in additional gains from the realization of economies of large scale production. When firms are protected by tariffs from foreign competition, they may take advantage of their market power by raising prices and reducing their domestic sales. The result is that protected firms may produce at levels below their minimum-cost plant size. Trade liberalization should then bring about competitive pressures on formerly protected firms and induce them to raise production and productivity and to achieve more efficient plant size and lower per unit costs. These effects will be reinforced to the extent that the NAFTA liberalization lowers the cost to firms of their production inputs that are traded among the NAFTA members.

Greater sectoral specialization can also be expected to narrow the wage gap between the United States and Mexico, thus possibly reducing immigration pressure on the United States. In principle, a narrowing of the wage gap may come about by lowering wages for U.S workers, but this outcome is not inevitable. Given the disparity of size, the ability of Mexican exports to affect the United States may be limited in any event. But downward pressure on U.S. wages may be offset by a fall in the prices of U.S. imports, which improves the purchasing power of a given wage. There may also be a favorable impact on U.S. wages due to realization of economies of scale.

One would also normally expect greater specialization to draw returns to capital closer together, raising them in the United States and reducing them in Mexico. As the United States expands exports and therefore production in capital-intensive sectors, the increased demand for capital should raise its return, while the opposite could be expected to happen in Mexico. In fact, however, as will be noted below, our calculations indicate a rise in returns to capital in both countries. In Mexico it appears that the benefits of economies of scale outweigh the losses due to intersectoral specialization. It is quite conceivable, therefore, that both labor and capital may gain from a NAFTA in both countries.

III. The NAFTA CGE Model[2]

In order to analyze the sectoral employment effects of a NAFTA, a specially constructed economic model will be used. The type of model is known technically as a computable general equilibrium (CGE) model. The advantage of using a CGE model is that it permits analysis of both economy-wide and sectoral impacts. It takes into account a variety of indirect effects that occur due to interindustry relations within countries and also due to international trade effects that take place among countries as relative prices are changed.

The NAFTA CGE model used in this study is an extension of the model constructed by Brown and Stern (1989) to analyze the economic effects of the U.S.-Canada Free Trade Agreement (FTA).[3] Countries in the model are aggregated into three broad groups. Each of the NAFTA members (United States, Canada, and Mexico) is modeled individually, a group of 31 other major industrialized and developing countries are combined to create a fourth country, and the remaining countries of the world are consigned to a residual rest-of-the-world. The sectoral coverage in each country/region includes 23 "tradable" (import/export) product categories covering agriculture and manufacturing and 6 "nontradable" categories covering services and government.

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[2] Readers who are not concerned with the technical details of the model being used may wish to proceed to the results of the analysis reported in the sections immediately following.

[3] See USITC (1992) for a summary of the technical properties and results of the NAFTA CGE model as well as several other related models that have been used for computational analyses of the implications of a NAFTA.

Each sector in the model is characterized as being either perfectly competitive or monopolistically competitive with free entry. The products that are produced and traded are assumed to be differentiated, either by country of origin or by firm, to correspond to the two market structures.[4] The reference year for the data base of the model is 1989.[5] The input-output relations used in the model refer to 1977 for the United States, 1980 for Mexico, and 1976 for Canada.[6] More complete technical details and a description of the parameters and data base of the model are contained in Brown, Deardorff, and Stern (1992).[7]

There are several important assumptions that are either built into the model or are implemented by the model for the present analysis. It is important that these be understood in interpreting the results to be reported below.

> **Full Employment** – The analysis assumes throughout that the aggregate, or economy-wide, level of employment is held constant in each country. The NAFTA is therefore not permitted to change any country's overall rates of employment or unemployment. This assumption is made because overall employment is determined by macroeconomic forces and policies that are not contained in the model and are not the subject of the NAFTA negotiations. The focus here instead is on the composition

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[4] Issues of the modeling of market structures are discussed in Brown and Stern (1989).

[5] These data for 1989 were the latest available for all the countries included in the model at the time the study was initiated.

[6] The 1977 input-output table for the United States and the 1980 input-output table for Mexico were the most recent officially published tables available when the study was initiated. A 1985 input-output table exists for Mexico, but it could not be used because it contained data only for domestic transactions. The authors of the present study are cognizant that there have been significant changes in technology and productivity in the past decade or more in all the countries included in the NAFTA model. These changes would alter the input-output coefficients for particular sectors. However, the NAFTA model relies mainly on the intermediate input value shares and the shares of primary factors (i.e., capital and labor) as data. These shares tend to be more stable over time than physical input requirements. The results based on the NAFTA model will therefore not be especially sensitive to the particular input-output tables being used. For more discussion of this point, see Deardorff and Stern (1990, pp. 61-79).

[7] The main data used cover trade, production, and employment, and these data come from United Nations sources. The model parameters are constructed from the trade and input-output data for the countries included in the NAFTA model and from published studies of trade and capital/labor substitution elasticities. For a comprehensive discussion of the data and parameters, see Deardorff and Stern (1990, pp. 37–45).

of employment across sectors, occupations, and locations, as determined by the microeconomic interactions of supply and demand with the sectoral trade policies that a NAFTA will alter.

Balanced Trade – The analysis assumes that trade remains balanced for each country, or more accurately that any initial trade imbalance remains constant, as trade barriers are changed with a NAFTA. This assumption is intended to reflect the reality of mostly flexible exchange rates among the countries involved. It also, like the full employment assumption, is appropriate as a way of abstracting from the macroeconomic forces and policies that are the main determinants of trade imbalances.[8]

Fixed Relative Wages – As will be discussed further below, while the economy-wide wage in each country is permitted to adjust so as to maintain full employment, the wages across sectors, occupations, and locations are held fixed relative to one another. This permits the analysis to focus on the labor market adjustments that a NAFTA will require, independently of any relative wage changes that may facilitate those adjustments.

Fixed Labor Supply – Except in Section XI that allows for international migration, the total labor supply in each country is assumed to be held fixed in the analysis. This is not to say that changes in labor supply will not occur during the phase-in period of a NAFTA agreement, but only that they are assumed not to be the result of such an agreement.

The policy inputs into the model are the tariffs and nontariff barriers (NTBs) that are currently (as of the late 1980s) applied to the bilateral trade of the United States, Mexico, and Canada with respect to each other and to the other two aggregated regions included in the model. These tariff rates are listed in Table A-1 in the Statistical Appendix.[9] As will be noted below, in order to investigate the sectoral employment effects of a NAFTA, it will be assumed that the existing bilateral tariffs for the three nations will be removed and selected NTBs relaxed all at one time rather than in stages.

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[8] The results reported below for changes in total exports and imports may appear to contradict this assumption of balanced trade. This is because what are reported are measures of the *quantities* traded, which are relevant for output and employment changes. They are not the *values* of trade, which undergo additional change due to changing relative prices. It is the values of exports relative to imports that are held fixed by the balanced trade assumption.

[9] The tariff rates for Canada and the United States are post-Tokyo Round (1987) rates, and those for Mexico refer to 1989. The tariff rates for each country are weighted by bilateral imports. An adjustment of the U.S. tariff rates on imports from Mexico was made to take the maquiladora imports into account. NTBs are represented in terms of import coverage ratios. For more information on the tariffs and NTBs being used, see Brown, Deardorff, and Stern (1992) and Deardorff and Stern (1990, p. 42).

When the policy changes are introduced into the model, the method of solution yields percentage changes in sectoral employment and other variables of interest for the United States and the other countries. Multiplying the percentage changes by the actual levels of sectoral employment given in the data base yields the absolute employment changes, positive or negative, that might result assuming, as noted, that existing tariffs are removed and NTBs relaxed all at one time. More realistically, if the U.S.-Canada FTA is any guide, the removal of tariffs and NTBs in a NAFTA will be phased in over a period of a decade or longer. If information were available for the different phases, the model could in principle be solved sequentially taking into account the reductions in tariffs and NTBs for each time period.[10]

The results reported below will thus provide insight into what might plausibly happen to sectoral employment in the United States at a national level as the result of a NAFTA. In particular, it will be possible to identify the sectors that will experience increases as well as declines in employment in both percentage and absolute terms in relation to 1989 sectoral levels. These employment changes will then provide some indication of the numbers of American workers who might have to change jobs due to a NAFTA.

While the bilateral removal of tariffs and NTBs constitute the main changes in trade policies that will be brought about by a NAFTA, there may be other changes as well. These relate especially to changes in foreign direct investment (FDI) and to the cross-border movement of workers as the result of changes in the rate of return on capital and changes in real wages. It is difficult to know how FDI and cross-border movements of workers will be affected by changes in their rates of return. What is done therefore is to assume that investment or worker migration change by certain specified amounts in conjunction with the trade liberalization that occurs. It can then be determined on the basis of these assumptions how sectoral employment in the United States will be affected by the combined changes engendered by a NAFTA.

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[10] Allowance would have to be made as well for adjustment lags between the policy changes and responses and for the effects of changes in the stocks of physical and human capital.

Labor Market Elaboration

The NAFTA CGE model used in Brown, Deardorff, and Stern (1992) did not include a breakdown of employment by occupations or locations, but only by sectors. For the purpose of the present study, a procedure for providing such a breakdown has been appended to the model. As will be discussed in more detail below, data on the distribution of U.S. employment across industries, occupations, and states were used to allocate the employment changes produced by the CGE model across these several dimensions. Thus it is possible to provide estimates of how a NAFTA, under various assumptions about its implementation and effects, will alter patterns of employment not only across industries, but also across major occupational categories, across geographic regions and states of the United States, and across occupation/region and occupation/state combinations. The accuracy of such detailed estimates depends, of course, on an assumed constancy of the distribution of sectors across occupations and locations, and is therefore certainly subject to considerable error. These breakdowns are very useful, nonetheless, in indicating the extent of labor-market dislocation that may arise due to a NAFTA.

In modeling the labor market, it should be noted that the major purpose of the analysis is to quantify the extent of these labor-market adjustments and dislocations. These adjustments consist first of changes in disaggregated demands for labor that then require labor to move from sectors, occupations, and locations where demand falls to sectors, occupations, and locations where demand rises. In fact these movements may be ameliorated somewhat by market adjustments — changes in relative wages that bring supplies and demands together without the need for such movement. However, these possible wage changes and their effects are much more uncertain and difficult to ascertain than the quantitative changes they correct.[11] In any case, the substitutions in demand are likely to be limited, while those in supply are likely to be large. Therefore it is to be expected that most of the labor market adjustments take the form of movements of labor across these various dimensions. Thus attention is focused here on the changes in labor demands that occur at constant relative wages.

To implement this assumption, it would be simplest if the money wage could be held constant in the calculations. However, to do so in the context of reductions in barriers to trade that are unlikely to be perfectly balanced among countries would lead, in the model's calculations, to a certain amount of expansion or contraction of aggregate employment in some countries. A decision was made to abstract from these aggregate changes, since in part they can be regarded as more properly determined by the stance and accommodation of macroeconomic policies, rather than by the trade policies that the model is equipped explicitly to examine. In addition, because the model focuses on disaggregated changes in employment and their implications for adjustment, the disaggregated effects need to be examined independently of such aggregates. For both of these reasons, then, the NAFTA is modeled as accompanied by adjustment of each country-wide wage so as to stabilize aggregate employment. That is, the country-wide (money) wage in each country rises or falls as necessary to keep aggregate employment equal to the aggregate supply of labor.[12] However the relative wages across industries, occupations, and locations are at the same time held fixed in order to identify the corresponding changes in labor demands.[13]

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[11] Such corrections through relative wages depend upon the abilities of both workers and firms to substitute among sectors, occupations, and locations of employment. What are needed are measures of elasticities of substitution—quantitative estimates of how quantities supplied and demanded respond to price—in these various dimensions. Unfortunately, no reliable information exists on these substitution elasticities.

[12] This assumption of full employment thus rules out any changes in aggregate U.S. employment due to a NAFTA. It is conceivable that the NAFTA may result in net job creation, but one would have to make some possibly arbitrary macroeconomic employment and related policy assumptions to determine how aggregate employment might change. A case in point is Hufbauer and Schott (1992, pp. 55-56), who estimate that about 130,000 additional U.S. jobs would be created by a NAFTA. Their estimate is based on a $9 billion increase in U.S. net exports, with each $1 billion of net exports increasing employment by 14,500 workers.

Using the NAFTA model, it is possible to calculate several measures of labor-market dislocations, including: (1) dislocations across sectors for the economy nationwide; (2) dislocations across occupations; (3) dislocations across regions; (4) dislocations across states; (5) dislocations across occupations and regions; and (6) dislocations across occupations and states. The estimates of sectoral employment effects for the U.S. economy nationwide provide the essential starting point for identifying where the most serious adjustment problems for American workers are likely to occur as the result of a NAFTA. Using constructed estimates of the duration of unemployment and wage losses based upon the 1990 Displaced Workers Survey conducted by the U.S. Department of Labor, it should be possible to determine what the societal costs are for the United States for workers who may be displaced by a NAFTA. This will then provide some indication of the need for special measures for adjustment assistance for workers in particular sectors, occupations, and regions.

IV. Computational Results – Aggregate Effects

The negotiations to form a NAFTA were completed in August 1992. As this analysis was conducted prior to the completion of the negotiations, this study relies on a NAFTA CGE model to explore the economic implications of several scenarios that were presumed to include some of the likely features of the final agreement.

The Scenarios

The scenarios are indicated schematically in Figure 1. They include the five scenarios A.-E. plus another four scenarios, F-I, involving migration that will be considered below in Section XI.

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[13] No account is taken therefore of wage differences for different industries, occupations, and locations that may in fact exist and that will change in response to a NAFTA.

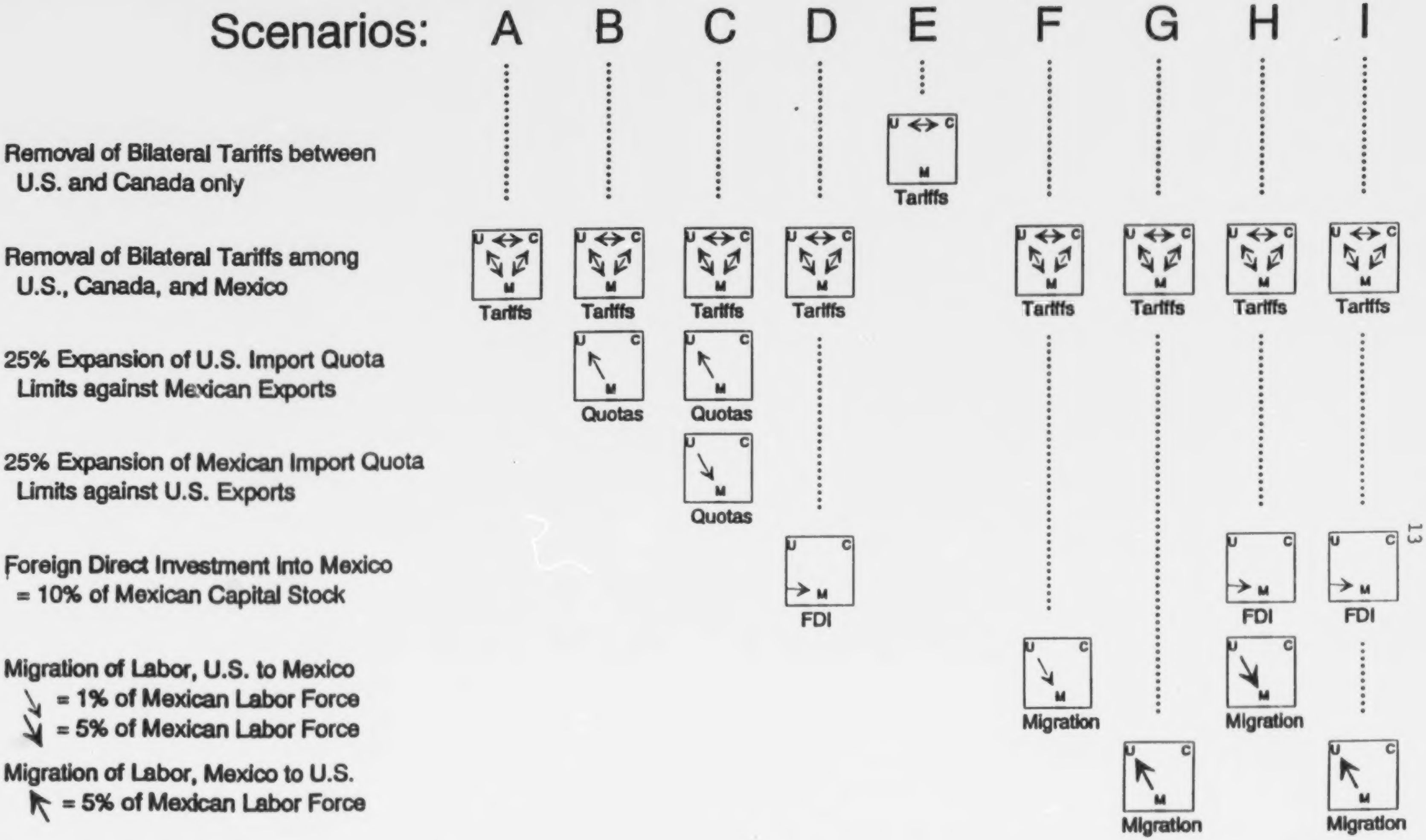
Scenarios: A B C D E F G H I
Removal of Bilateral Tariffs between U.S. and Canada only
Removal of Bilateral Tariffs among U.S., Canada, and Mexico
25% Expansion of U.S. Import Quota Limits against Mexican Exports
25% Expansion of Mexican Import Quota Limits against U.S. Exports
Foreign Direct Investment into Mexico = 10% of Mexican Capital Stock
Migration of Labor, U.S. to Mexico
↘ = 1% of Mexican Labor Force
↘ = 5% of Mexican Labor Force
Migration of Labor, Mexico to U.S.
↖ = 5% of Mexican Labor Force
U
C
M
Tariffs
Quotas
FDI
Migration

Figure 1: Schematic Representation of the Scenarios

A. Tariff Elimination: Trilateral removal of all tariffs on trade among the United States, Canada, and Mexico. This is the base case, since it includes the minimal amount of trade liberalization that is likely to be included as part of a NAFTA.

B. Tariff Elimination and U.S. NTBs Against Mexico Relaxed: Same as scenario A. plus 25 percent expansion of U.S. import quota limits applied to Mexican exports of agriculture, food, textiles, and clothing. A partial expansion of import quota limits was chosen, instead of complete elimination, because it is viewed that any liberalization of these NTBs is to some extent unlikely.[14] This scenario has only U.S. NTBs being relaxed, to reflect the possibility that Mexico will be accorded some preferential treatment due to its developing country status.

C. Tariff Elimination and U.S. and Mexican NTBs Relaxed: Same as scenario B. plus 25 percent expansion of Mexican import quota limits applied to U.S. exports of agriculture, transport equipment, and other particular sectors. This scenario requires Mexico to yield on NTBs in amounts comparable to the concessions given by the United States.[15]

D. Tariff Elimination and Capital Flows into Mexico: Same as A. plus Mexico is assumed to relax foreign direct investment (FDI) restrictions, resulting in a capital inflow from outside of the NAFTA that expands Mexico's capital stock by 10 percent.[16] In this scenario, NTBs are not liberalized. The inflow of FDI from the Other-

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[14] In the U.S.-Canada FTA, there was comparatively little relaxation of existing NTBs. This may also be true of a NAFTA, although there is no way to determine this until a final agreement is made public. It was in recognition of some possible expansion of U.S. import quota limits applied to selected Mexican exports that an arbitrary 25 percent expansion of these limits was assumed.

[15] The same consideration applies here as in the preceding footnote.

[16] Very little is known empirically about how FDI responds to changes in relative rates of return to capital. The 10 percent figure chosen is thus arbitrary. A similar capital inflow into Mexico was assumed to occur in the KPMG Peat Marwick (1991) model of a U.S.-Mexico FTA.

31 group of countries is motivated by the rise in the return to capital found in Scenario A. for Mexico and the fall in return to capital in the Other-31 group.[17]

E. Canada United States Free Trade – Tariff Elimination: Removal of post-Tokyo Round (1987) bilateral tariffs on trade between the United States and Canada. This case is included for comparison with the formulations of the NAFTA in the other four scenarios.

Scenarios A. – D. represent alternative versions of a NAFTA that could obtain with varying degrees of likelihood. Scenario A. is probably the most likely, involving only tariff elimination, for several reasons. Tariffs are the easiest trade policies to negotiate. There is ample precedent for including tariff elimination and not much more in FTAs, as in the U.S-Israel and U.S.-Canada agreements that are already in place. Tariffs cuts are also the least likely to be resisted by sectoral lobbying interests, which tend, because of four decades of GATT discipline, to have secured protection instead through NTBs. Those sectoral interests are sure to provide stiff resistance to the relaxation of NTBs included in Scenarios B. and C. Scenario A. is therefore the base case for the analysis, and Scenarios B. – D. represent departures from it.

Scenario E, representing U.S.-Canada free trade, is included for comparison purposes. Since Scenarios A. – D. include tariff elimination among all three countries of the NAFTA, they subsume the effects of the U.S.-Canada FTA that has already been negotiated and is in the process of being implemented. It is appropriate, therefore, to infer the incremental effects of adding Mexico to that agreement by comparing the NAFTA scenarios with Scenario E. Thus the difference between the effect on any particular variable reported for Scenario A. and the corresponding effect for Scenario E. represents the effect on that same variable that would arise if tariffs between the United States and

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[17] Within the model there is no role for ownership of capital, and therefore no distinction among various methods of financing a capital expansion. The assumption here is only that the real capital stock of Mexico is expanded. Earnings on the additional capital are assumed to leave Mexico and go to the Other-31, without regard to whether these earnings leave as interest payments or as returns to ownership.

Canada were already zero and those countries' tariffs against Mexico were then eliminated along with Mexico's tariffs against them.

None of these scenarios includes cross-border migration of labor. Four additional scenarios taking this also into account will be introduced below in Section XI. In all of the scenarios, it will be recalled that the changes are assumed to take place all at once rather than being phased in over a period of years as would likely be the case in the negotiated agreement. A summary of the results for the individual scenarios A.-E. is provided in Table 1.

Trade Effects

The changes in the quantity of imports and exports measured in base period U.S. dollars are reported in columns two and three and the percent changes in the terms of trade are reported in column four of Table 1. It was noted above that NAFTA countries might experience an improvement in their terms of trade insofar as intra-NAFTA trade would increase. Countries that enjoy such an improvement in the terms of trade also tend to increase imports relative to exports. This outcome is simply a result of the fact that an increase in the price of export goods raises the volume of import goods that can be purchased while keeping trade balanced in the model.

The impact of a NAFTA on trade volumes appears particularly lopsided for Mexico and the Other 31 countries in scenario D. This imbalance is caused primarily by the capital flows assumed to occur. The Other 31 countries are assumed to install capital in Mexico, generating sizable interest payments from Mexico to them. The remittance of interest payments by Mexico must be offset by a trade surplus if the current account balance is to remain at the level prevailing in the base period. The opposite is the case for Other 31, which increases imports by $6.8 billion but reduces exports by $4.4 billion under scenario D.

A second interesting point is that, as expected, the United States enjoys an improvement in its terms of trade relative both to the rest of the world and Canada. For

TABLE 1

SUMMARY RESULTS OF A NORTH AMERICA FREE TRADE AGREEMENT: CHANGES IN COUNTRY IMPORTS, EXPORTS, TERMS OF TRADE, WELFARE, AND RETURN TO LABOR AND CAPITAL (Trade in Millions of U.S. Dollars)

COUNTRY	IMPORTS* (2)	EXPORTS* (3)	TERMS OF TRADE PERCENT CHANGE (4)	EQUIVALENT VARIATION		WAGE RATE PERCENT CHANGE (7)	RETURN TO CAPITAL PERCENT CHANGE (8)
				PERCENT (5)	MILLIONS (6)		
A. NAFTA: Tariff Elimination							
United States	8886.1	7677.1	0.3	0.1	3253.0	0.2	0.2
Other	-712.8	-416.5	-0.0	-0.0	-1858.0	-0.1	-0.1
Canada	4959.0	5771.0	-0.7	0.7	3819.7	0.5	0.6
Mexico	2629.8	2872.2	-0.9	1.4	1766.0	0.3	0.5
B. NAFTA: Tariff Elimination and U.S. NTBs Against Mexico Relaxed							
United States	8932.3	7745.6	0.3	0.1	3458.3	0.2	0.2
Other	-714.3	-425.6	-0.0	-0.0	-1774.7	-0.1	-0.1
Canada	4960.5	5774.1	-0.7	0.7	3829.3	0.5	0.6
Mexico	2674.1	2899.8	-0.9	1.3	1633.0	0.4	0.5
C. NAFTA: Tariff Elimination and U.S and Mexican NTBs Relaxed							
United States	9360.4	8098.4	0.3	0.1	3753.4	0.2	0.2
Other	-736.0	-418.4	-0.0	-0.0	-1875.4	-0.1	-0.1
Canada	4961.1	5777.0	-0.7	0.7	3823.1	0.5	0.6
Mexico	3091.9	3377.5	-1.1	2.2	2854.3	0.4	0.8
D. NAFTA: Tariff Elimination and Capital Flows into Mexico							
United States	9713.9	9064.0	0.1	0.1	6082.1	0.2	0.2
Other	6772.3	-4435.4	0.2	0.0	143.7	0.0	0.2
Canada	4998.9	5851.6	-0.7	0.7	3811.2	0.6	0.7
Mexico	802.7	11514.9	-4.6	4.6	5837.3	7.1	2.7
E. Canada-United States Free Trade: Tariff Elimination							
United States	5918.4	5050.0	0.2	0.0	1007.5	0.1	0.1
Other	-485.6	-326.9	-0.0	-0.0	-985.2	-0.1	-0.1
Canada	4875.7	5672.5	-0.7	0.7	3696.1	0.6	0.6
Mexico	7.3	14.8	-0.0	0.0	32.6	-0.1	-0.0

*Exports and imports valued in U.S. dollar base period prices.

A. Trilateral tariff removal.
B. Trilateral tariff removal and a 25 percent expansion of U.S. import quota limits applied to Mexican exports of agriculture, food, textiles and wearing apparel.
C. Trilateral tariff removal plus a 25 percent expansion of U.S. and Mexican bilateral import quota limits.
D. Trilateral tariff removal plus a 10 percent increase in Mexico's capital stock imported from the rest of the world.
E. Canada-U.S. bilateral tariff removal.

example, in scenario A., U.S. terms of trade improve by 0.3 percent, while Canada experiences a small deterioration of 0.7 percent. The impact on Mexico varies according to the experiment conducted. Mexico's terms-of-trade loss is largest under the assumption that Mexico's capital stock rises, as in scenario D. as compared to scenarios A., B., and C., respectively. This is a consequence of the FDI inflow, which leads to an increase in export supply by Mexican firms and a resulting fall in Mexican export prices on the world market, particularly in comparison to the Other 31-country aggregate.

Economic Welfare

The economic welfare effects of the various liberalization scenarios are reported in columns five and six of Table 1.[18] It is evident that each liberalization scenario is welfare improving for the NAFTA countries. For the United States, welfare in scenario A. rises by $2.5 billion with the assumed NAFTA trilateral removal of tariffs and by roughly comparable amounts in scenarios B.-D. While these welfare increases are a relatively small 0.1 percent of U.S. gross domestic product (GDP), they are nonetheless indicative that the United States stands to gain from the NAFTA. It is also interesting that the United States has a welfare gain of $734 million from a U.S.-Canada FTA in scenario E. as compared to the $2.5 billion gain from a NAFTA in scenario A. This suggests that the policy of sequentially negotiating FTAs with Canada and then with Mexico results in increasing gains for the United States.

Mexico appears to experience the largest percentage welfare improvement from a NAFTA. Mexican welfare rises by 1.0 percent of GDP under scenario A. and, when capital inflows are incorporated under scenario D.. Mexican welfare rises by 3.7 percent of GDP. The large additional increment to Mexico's welfare when capital formation is taken into account is partly a consequence of the realization of economies of scale in manufacturing as the Mexican economy grows.

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[18] These welfare effects are measured conceptually as the "equivalent variation," which is the change in income valued at base period prices that yields the same change in welfare that occurs with the assumed liberalization.

The welfare results also suggest that it is in Canada's interest to participate in the NAFTA negotiations, although the gain to Canada of doing so appears to be relatively small. That is, the formation of a NAFTA indicated by scenarios A.-D. raises Canada's welfare by somewhat more than the Canada-U.S. bilateral tariff elimination in scenario E.[19]

It may also be noted that the Other 31 countries experience comparatively small reductions in economic welfare as the result of the NAFTA changes being modeled. This reflects the fact that a very large fraction of trade of the three NAFTA countries already occurs among themselves, so that the volume of trade that could be potentially diverted is relatively small. Also, given that U.S. tariffs are already quite low, the induced preferences in favor of intra-NAFTA trade would be small.

Real Wages and Return to Capital

The percentage changes in real wages and in the real return to capital are reported in the last two columns of Table 1. It can be seen that real wages rise in both Mexico and the United States in all four NAFTA scenarios A.-D. However, the real wage in Mexico also rises relative to that in the United States, increasing by 0.4 percent in scenario A.-C. compared to only 0.2 percent in the United States. The relative improvement increases to 7.0 percent in Mexico versus 0.2 percent in the United States when capital flows are added in scenario D. At least some of this gain is the result of a fall in consumer prices in Mexico caused by its relatively large tariff reductions. These increases in Mexican real wages suggest that the incentive for Mexican workers to migrate to the United States may be lessened somewhat. This possibility will be explored further in Section XI. It is interesting moreover that the narrowing of the Mexican-U.S. wage gap is not accomplished at the expense of U.S. workers, whose real wage rises in scenarios A. and D. despite the fact that after the formation of a NAFTA the protection of U.S. labor would be reduced. One reason for the increase in U.S. real wages is that the United States experiences an improvement in its terms of trade, as already noted, which raises the value of what U.S. workers produce on the world market. Also, there is a small increase in the scale of U.S. manufacturing production as a result of the NAFTA liberalization.

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[19] Scenario E. assumes that the Canada-U.S. FTA occurs all at once in 1989. It thus does not take into account the fact that the FTA has been in effect since the beginning of 1989.

It may be noted finally that the real return to capital tends to rise in all three NAFTA countries in scenarios A.-D. This may have been expected for the United States and Canada, but not for Mexico. However, it appears that the realization of economies of scale will tend to raise the average product of both labor and capital in the Mexican manufacturing sector. This is especially the case in scenario D., which makes allowance for the expansion of FDI in Mexico. The results of scenarios A.-C. that the real return to capital rises most in Mexico relative to the Other 31 group suggests that the inflow of capital may come primarily from outside the NAFTA countries, not from the United States. This suggests in turn that the fear that U.S. firms will relocate to Mexico may be exaggerated.[20] This is consistent with the modeling of the capital flow in scenario D.

V. Computational Results – Sectoral Effects

Sectoral results for each of the three NAFTA countries are reported in Tables 2-4 for liberalization scenario A., which refers to trilateral tariff removal. As mentioned above, Scenario A. may be interpreted as a base case insofar as it seems likely that a NAFTA would be focused, at least initially, mainly on tariff elimination, and that there would be some degree of uncertainty attached to the changes in NTBs and how FDI and

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[20] The capital inflow into Mexico is assumed in Scenario D. to take the form of foreign direct investment that increases the capital stock across all sectors. As noted above, this inflow is induced by the fall in the rate of return to capital in the Other-31 countries and the increase in the rate of return to capital in Mexico. It can be thought of as representing what might occur if a NAFTA results in an investment boom in Mexico.

TABLE 2
SECTORAL EFFECTS ON THE UNITED STATES OF NORTH AMERICAN FREE TRADE
TARIFF ELIMINATION
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS		OUTPUT (6)	NO. FIRMS (7)
			CANADA (4)	MEXICO (5)		
Tradables						
1 Agriculture	0.04	2.04	4.14	10.92	-0.04	0.00
2 Mining, Quarrying	-0.33	0.77	1.27	4.97	-0.34	-0.38
310 Food	1.85	1.42	9.92	4.73	0.10	-0.02
321 Textiles	7.62	0.01	16.95	3.30	1.08	0.63
322 Clothing	10.20	0.56	47.47	0.29	0.73	0.23
323 Leather Products	1.07	2.08	12.43	15.74	-0.02	-0.23
324 Footwear	11.05	2.64	29.72	11.91	0.19	-0.06
331 Wood Products	1.91	0.82	1.06	2.04	0.15	0.02
332 Furniture, Fixtures	9.62	3.97	13.69	10.24	0.29	0.10
341 Paper Products	2.44	-0.57	-0.78	6.66	0.33	0.17
342 Printing, Publishing	1.81	0.25	-0.45	-0.37	0.11	0.01
35A Chemicals	3.57	-0.47	-2.05	1.04	0.59	0.42
35B Petroleum Products	-0.26	0.89	1.57	4.38	-0.01	-0.05
355 Rubber Products	5.88	0.76	11.10	-6.73	0.46	0.23
36A Nonmetal Min. Prod.	4.71	0.83	2.12	2.13	0.13	0.05
362 Glass Products	3.80	11.95	34.98	14.50	-1.19	-1.33
371 Iron, Steel	5.76	2.00	13.10	-0.39	0.06	-0.03
372 Nonferrous Metals	-2.47	7.97	19.08	35.21	-1.75	-1.65
381 Metal Products	5.43	3.40	15.71	5.10	0.14	0.06
382 Nonelec. Machinery	3.57	0.59	4.58	-18.34	0.56	0.43
383 Electrical Machinery	2.11	6.94	15.30	65.13	-0.49	-0.57
384 Transport Equipment	-1.54	3.90	13.37	-5.14	-0.71	-0.81
38A Misc. Mfrs.	3.83	-0.15	-1.04	1.80	0.71	0.59
Nontradables						
4 Utilities					0.00	0.00
5 Construction					0.03	0.00
6 Wholesale Trade					0.00	0.00
7 Transportation					0.01	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.01	0.00
Total	2.09	1.88	6.90	13.49	0.02	-0.00

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TABLE 3
SECTORAL EFFECTS ON CANADA OF NORTH AMERICAN FREE TRADE
TARIFF ELIMINATION
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS		OUTPUT (6)	NO. FIRMS (7)
			U.S. (4)	MEXICO (5)		
Tradables						
1 Agriculture	0.29	3.42	4.89	4.74	-0.14	0.00
2 Mining, Quarrying	0.95	0.85	1.03	4.88	1.29	0.81
310 Food	4.92	4.75	12.50	11.84	0.35	-0.29
321 Textiles	7.02	20.20	43.33	16.46	-2.77	-3.78
322 Clothing	31.84	10.78	56.26	0.90	1.16	0.13
323 Leather Products	8.99	0.82	7.33	41.21	4.50	3.48
324 Footwear	27.34	7.33	45.10	47.03	3.41	1.84
331 Wood Products	0.79	4.58	6.49	20.40	0.35	-0.40
332 Furniture, Fixtures	12.04	20.72	35.35	39.95	-0.02	-1.14
341 Paper Products	-0.82	12.52	18.74	26.32	-0.83	-1.40
342 Printing, Publishing	-0.58	3.04	3.69	10.62	-0.91	-1.11
35A Chemicals	-2.25	13.03	21.53	20.14	-3.85	-4.52
35B Petroleum Products	1.40	0.39	0.70	3.60	1.16	0.33
355 Rubber Products	9.36	7.33	18.42	-9.04	2.12	1.23
36A Nonmetal Min. Prod.	2.09	4.54	11.71	3.66	0.63	-0.21
362 Glass Products	31.65	0.78	3.41	-2.47	18.62	17.06
371 Iron, Steel	10.36	4.99	11.57	-6.43	5.15	3.37
372 Nonferrous Metals	15.40	-5.13	-3.16	19.05	12.80	9.69
381 Metal Products	12.37	11.55	18.49	21.26	1.35	-0.84
382 Nonelec. Machinery	3.15	7.14	9.82	-20.06	-2.42	-3.60
383 Electrical Machinery	11.27	9.62	16.03	70.12	0.53	-1.19
384 Transport Equipment	12.52	-5.27	-5.60	-11.00	9.79	7.27
38A Misc. Mfrs.	-1.37	7.26	11.50	18.45	-4.41	-5.58
Nontradables						
4 Utilities					0.10	0.00
5 Construction					0.30	0.00
6 Wholesale Trade					-0.02	0.00
7 Transportation					0.23	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.27	0.00
Total	4.83	4.30	7.73	11.01	0.52	0.02

TABLE 4
SECTORAL EFFECTS ON MEXICO OF NORTH AMERICAN FREE TRADE
TARIFF ELIMINATION
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS		OUTPUT (6)	NO. FIRMS (7)
			U.S. (4)	CANADA (5)		
Tradables						
1 Agriculture	6.94	2.64	2.82	1.42	0.13	0.00
2 Mining, Quarrying	4.59	2.63	4.04	4.58	4.07	3.07
310 Food	2.90	11.82	20.18	3.94	-0.68	-1.06
321 Textiles	1.12	22.04	32.24	28.94	-1.01	-1.33
322 Clothing	0.09	30.44	50.69	50.43	-1.75	-2.08
323 Leather Products	14.72	14.24	30.42	27.08	1.82	1.13
324 Footwear	11.89	37.07	47.62	51.94	1.09	0.22
331 Wood Products	1.93	28.47	35.58	39.51	-1.54	-1.92
332 Furniture, Fixtures	10.78	13.36	33.11	32.90	6.22	5.45
341 Paper Products	6.12	7.01	8.34	7.21	-0.79	-1.29
342 Printing, Publishing	-0.32	9.19	21.86	15.58	-1.58	-2.24
35A Chemicals	-0.70	12.73	18.50	21.19	-3.11	-4.01
35B Petroleum Products	3.88	1.26	1.87	11.98	1.19	-0.45
355 Rubber Products	-6.45	24.11	33.58	27.63	-6.37	-6.69
36A Nonmetal Min. Prod.	1.85	25.44	37.28	38.70	-1.21	-1.88
362 Glass Products	10.14	15.92	26.97	58.50	-1.60	-2.94
371 Iron, Steel	-1.22	10.22	20.08	16.58	-5.58	-6.26
372 Nonferrous Metals	31.07	-5.55	-0.63	8.71	24.79	21.50
381 Metal Products	4.40	15.91	23.56	25.05	-2.39	-3.52
382 Nonelec. Machinery	-17.39	17.20	29.91	27.08	-22.47	-23.70
383 Electrical Machinery	63.69	-12.91	3.58	6.15	53.38	48.75
384 Transport Equipment	-5.60	16.96	21.33	25.92	-9.26	-9.33
38A Misc. Mfrs.	1.78	13.01	24.93	16.11	-2.70	-4.00
Nontradables						
4 Utilities					0.30	0.00
5 Construction					-0.01	0.00
6 Wholesale Trade					-0.30	0.00
7 Transportation					-0.25	0.00
8 Financial Services					-0.37	0.00
9 Personal Services					-0.33	0.00
Total	11.16	11.18	18.64	14.23	0.31	-1.71

cross-border migration would be affected. The analogous results for Scenarios B.-E. are shown in Tables A-2 to A-13 in the Statistical Appendix.

Trade Effects

The percent changes in total sectoral exports and imports are shown in columns two and three of Tables 2-4, while the changes in bilateral imports with each NAFTA trade partner are reported in columns four and five. The bilateral trade changes between the United States and Canada exhibit a strong indication of increased intra-industry trade in most product categories. The broad similarity between the U.S. and Canadian economies in terms of their endowments of labor and capital, labor force quality, and per capita income suggest that the benefits of U.S.-Canada trade stem primarily from increased product variety rather than intersectoral specialization. The NAFTA CGE model, which combines both the roles of national factor endowments and product variety in the manufacturing sector in determining the pattern of trade, allows this result to emerge.

Mexican imports from its two trading partners rise in virtually every product category, whereas its bilateral exports fall in some sectors and rise in others. For example, the United States reduces imports from Mexico in printing and publishing (−0.4%), rubber products (−6.7%), iron and steel (−0.4%), nonelectrical machinery (−18.3%), and transport equipment (−5.1%). In contrast, U.S. imports from Mexico rise substantially in agriculture (10.9%), leather (15.7%), footwear (11.9%), furniture and fixtures (10.2%), glass products (14.5%), nonferrous metals (35.2%), and electrical machinery (65.1%). These results suggest a somewhat stronger pattern of intersectoral specialization for Mexico, which would be expected given Mexico's very different factor abundance as compared to the United States and Canada.

The results in Table 2 also suggest that Canada's fear that a U.S.-Mexico agreement may seriously erode the position of Canadian firms in the U.S. market may be unfounded. There are only three product categories — paper products, chemicals, and miscellaneous manufactures — in which U.S. imports from Mexico appear to displace

Canadian exports. Canadian exports to the United States of rubber products, iron and steel, nonelectrical machinery, and transport equipment all rise while Mexican exports to the United States in these product categories fall. There are a number of cases in which exports from both Canada and Mexico to the United States increase. It is evident in Table 3 that U.S. producers displace Mexican producers in four different Canadian sectors, whereas the opposite occurs in nonferrous metals. The foregoing results reflect especially the different sectoral tariff rates that are applied by the individual countries against their NAFTA partners.

As already noted, Mexico's increased exports to the U.S. market are quite substantial in several product categories. However, the impact on total U.S. imports is relatively small due to Mexico's small share of the U.S. market, as can be seen from column three of Table 2. The main exceptions include glass products, nonferrous metals, and electrical machinery, which show the largest percentage increases in total U.S. imports.

Industry Output and Number of Firms

Columns six and seven of Tables 2-4 report the percent changes in industry output and number of firms for each country. These results can also be used to calculate the percent change in output per firm by taking the *difference* between these two columns.[21] It is especially worth noting that output per firm rises in all three countries in virtually every industry, therefore contributing to gains from economies of scale.

Despite the increases noted in intra-industry trade, inter-sectoral specialization also emerges, particularly in Mexico. For example, it can be seen in Table 4 that output declines in 20 of the 29 industries in Mexico, shifting instead towards such labor-intensive sectors as: mining and quarrying (4.1%); leather products (1.8%); footwear (1.1%); and furniture and fixtures (6.2%). The largest percentage increases in output are in durable goods sectors, such as nonferrous metals (24.8%) and electrical machinery (53.4%).

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[21] For example, in Table 2, industry output in textiles rises by 1.08 percent, which is *greater* than the 0.63 percent increase in the number of firms. Industry output falls by −0.34 percent in mining and quarrying, which is *less* than the −0.38 percent change in the number of firms. In both of these cases, therefore, output per firm rises.

There is also evidence of inter-sectoral specialization in Canada, with output declining in 11 of the 29 sectors noted in Table 3. The largest increases in sectoral output in Canada occur in: leather products (4.5%); footwear (3.4%); glass and glass products (18.6%); iron and steel (5.2%); nonferrous metals (12.8%); and transport equipment (9.8%).

Employment Effects

The employment effects for the United States for scenarios A.-E. are shown in percentage and absolute terms in Table 5. In comparison to Mexico and Canada, whose employment effects are not reported here, the U.S. employment effects are more diffuse and are generally small, with percent employment declines generally less than one percent in each sector. The only exceptions are the glass and glass products sector, with employment declines exceeding one percent in scenarios A., B., C., and E., nonferrous metals in all five scenarios, and electrical machinery in scenario D.

While the percentage employment effects provide some indication of the relative changes that may occur in individual sectors as the result of a NAFTA, it is important to consider the absolute changes in employment in order to have an indication of the numbers of workers that may have to move from one sector to another. These absolute changes are listed for all 29 sectors in the right-hand five columns in Table 5 for each scenario. Totals for the entire economy are also reported, but are zero under the assumption that aggregate employment is held fixed. For ease of exposition, the positive and negative employment effects for selected U.S. sectors for NAFTA scenarios A.-D. are presented in Table 6.

It is evident from Table 6 that the greatest expansion of U.S. employment due to a NAFTA occurs in: nonelectric machinery; miscellaneous manufactures; textiles; chemicals; and wearing apparel. The negative employment effects are concentrated in: transport equipment; electric machinery; nonferrous metals; mining and quarrying; and

Table 5

Sectoral Employment Effects on the United States of North American Free Trade
Scenarios A. - E.
Percentage Change; Thousands of Workers

ISIC Sector	Percentage Change in Employment					Change in Thousands of Workers				
	NAFTA Tariffs only (A)	NAFTA Tariffs and NTBs vs Mexico (B)	NAFTA Tariffs and NTBs (both) (C)	NAFTA Tariffs and FDI (D)	US-Can FTA Tariffs (E)	NAFTA Tariffs only (A)	NAFTA Tariffs and NTBs vs Mexico (B)	NAFTA Tariffs and NTBs (both) (C)	NAFTA Tariffs and FDI (D)	US-Can FTA Tariffs (E)
1 Agr., For., & Fish.	-0.04	-0.06	0.05	0.33	0.02	-1.829	-2.349	2.226	13.524	0.776
2 Min. & Quarry.	-0.36	-0.34	-0.39	-0.49	-0.18	-4.154	-3.874	-4.502	-5.642	-2.010
310 Food, Bev., and Tob.	-0.01	-0.03	-0.02	0.08	-0.02	-0.239	-0.597	-0.465	1.725	-0.404
321 Textiles	0.68	0.62	0.62	0.90	0.64	8.951	8.221	8.160	11.851	8.494
322 Wearing Apparel	0.29	0.15	0.15	0.46	0.23	4.390	2.373	2.234	7.077	3.610
323 Leather Prod.	-0.20	-0.22	-0.25	0.18	-0.04	-0.221	-0.236	-0.266	0.198	-0.038
324 Footwear	-0.01	-0.01	-0.02	0.19	0.07	-0.016	-0.022	-0.048	0.374	0.139
331 Wood Prod.	0.03	0.03	0.02	0.16	-0.02	0.211	0.210	0.118	1.063	-0.113
332 Furn. & Fixt.	0.13	0.13	0.11	0.16	0.28	0.772	0.769	0.658	0.918	1.652
341 Paper & Paper Prod.	0.17	0.17	0.16	0.22	0.18	1.512	1.491	1.368	1.907	1.584
342 Print & Publ.	0.04	0.04	0.03	0.05	0.03	0.638	0.644	0.571	0.903	0.487
35A Chemicals	0.42	0.42	0.41	0.51	0.37	5.322	5.308	5.172	6.411	4.594
35B Petrol. & Rel. Prod.	-0.04	-0.03	-0.04	-0.06	-0.02	-0.072	-0.066	-0.082	-0.110	-0.043
355 Rubber Prod.	0.29	0.29	0.30	0.59	0.04	0.905	0.912	0.932	1.826	0.130
36A Nonmetal Min. Prod.	0.07	0.07	0.07	0.09	0.02	0.419	0.442	0.405	0.534	0.144
362 Glass & Glass Prod.	-1.29	-1.29	-1.36	-0.85	-2.06	-2.917	-2.935	-3.093	-1.924	-4.680
371 Iron & Steel	-0.02	-0.01	-0.01	-0.05	-0.19	-0.233	-0.098	-0.086	-0.510	-1.860
372 Nonferrous Metals	-1.66	-1.60	-1.70	-3.36	-1.19	-6.541	-6.275	-6.676	-13.206	-4.679
381 Metal Prod.	0.08	0.08	0.09	0.09	0.02	1.566	1.673	1.716	1.818	0.455
382 Nonelec. Mach.	0.46	0.48	0.47	0.49	0.22	15.631	15.992	15.833	16.435	7.456
383 Elec. Mach.	-0.55	-0.51	-0.57	-1.25	0.11	-14.554	-13.514	-15.250	-33.027	2.808
384 Transp. Equip.	-0.80	-0.79	-0.68	-0.53	-0.99	-20.328	-20.121	-17.387	-13.583	-25.341
38A Misc. Manuf.	0.64	0.65	0.59	0.43	0.57	12.755	12.931	11.729	8.686	11.474
4 Elec., Gas & Water	-0.00	0.00	-0.01	-0.03	-0.01	-0.047	0.026	-0.119	-0.516	-0.105
5 Construction	0.03	0.03	0.03	0.02	0.01	2.003	2.128	1.912	1.374	0.722
6 Whole. & Ret. Trade	-0.00	0.00	-0.00	-0.01	-0.00	-0.180	0.178	-0.501	-2.309	-1.075
7 Transp., Stor., & Comm.	0.01	0.01	0.01	-0.00	0.00	0.688	0.789	0.598	-0.053	0.094
8 Fin., Ins., & Real Est.	-0.02	-0.01	-0.02	-0.03	-0.01	-1.597	-1.350	-1.826	-2.724	-0.806
9 Comm., Soc., & Pers. Serv.	-0.01	-0.01	-0.01	-0.01	-0.01	-2.834	-2.652	-3.333	-3.018	-3.465
Total*	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.000

*Total employment was held fixed by variation in the economy wide wage.

Table 6

Positive and Negative Employment Effects for Selected U.S. Sectors
Due to North American Free Trade (Scenarios A.-D.)
(Number of Workers)

ISIC Sector	NAFTA Tariffs only (A)	NAFTA Tariffs and NTBs vs Mexico (B)	NAFTA Tariffs and NTBs (both) (C)	NAFTA Tariffs and FDI (D)
Positive Employment Effects				
382 Nonelectrical Machinery	15631	15992	15833	16435
38A Miscellaneous Manufactures	12755	12931	11729	8686
321 Textiles	8951	8221	8160	11851
35A Chemicals	5322	5308	5172	6411
322 Wearing Apparel	4390	2373	2234	7077
Negative Employment Effects				
384 Transport Equipment	−20328	−20121	−17387	−13583
383 Electrical Machinery	−14554	−13514	−15250	−33027
372 Nonferrous Metals	−6541	−6275	−6676	−13206
2 Mining & Quarrying	−4154	−3874	−4502	−5642
9 Comm., Soc., & Pers. Serv.	−2834	−2652	−3333	−3018
Negative/Postive Employment Effects				
1 Agriculture, For., & Fish.	−1829	−2349	2226	13524
310 Food, Beverages, and Tobacco	−239	−597	−465	1725
323 Leather Products	−221	−236	−266	198
324 Footwear	−16	−22	−48	374

community, social, and personal services which includes government services. There is a tendency for the expansion of employment to be enhanced in scenario D., which includes an increase in FDI in Mexico. However, the increase of FDI in Mexico also results in larger negative employment effects for the United States in electric machinery, nonferrous metals, and mining and quarrying. It is also noteworthy that the agricultural sector shows positive employment effects in scenario C., which includes an expansion of import quota limits in both the United States and Mexico. The inclusion of FDI in Mexico in scenario D. leads to a larger employment increase in U.S. agriculture as compared to scenario C. There are also positive employment changes in: food, beverages, and tobacco; leather products; and footwear.

These results for textiles, wearing apparel, and agriculture merit further comment. The employment results for textiles and wearing apparel reflect the different tariff rates applied to these sectors in the three countries. For example, U.S. tariffs against Canada are 7.2 percent and 18.4 percent, respectively, for textiles and wearing apparel, and 2.8 percent and 6.2 percent against Mexico. The rates for Mexico reflect the relatively high maquiladora coverage that reduces the effective U.S. tariff against Mexico. In contrast, Canada's tariffs in these sectors against the United States are 16.9 percent and 23.7 percent, while Mexico's tariffs are 11.6 percent and 19.8 percent. So for the most part, the United States has lower tariffs than the other two countries in these sectors and thus has more to gain from tariff removal. At the same time, it should be noted that U.S. NTBs are substantial against Mexico in the textile and wearing apparel sectors, thus protecting U.S. interests from even the tariff changes that do occur, while Canadian and Mexican NTBs in these sectors against the United States are taken to be zero. Given these data, the U.S. textile and wearing apparel sectors show positive employment changes.

Regarding agriculture, the tariffs that are assumed to be eliminated in scenario A. for the agricultural sector are relatively low. They are highest for U.S. imports from Mexico (4 percent). That alone might suggest a small adverse effect on U.S. agriculture. Add to this the fact that the United States had only 11 percent and 3 percent NTB coverage against Canada and Mexico, respectively, in agriculture, while these countries had 20 percent and 46 percent NTB coverage, respectively, against the United States. It is not surprising then that employment in U.S. agriculture declines, when Mexican NTBs are unchanged, since the U.S. tariff is being reduced the most and the (smaller) tariff reductions in the other two countries are being rendered partially ineffective by their NTBs.

These results for both textiles/apparel and agriculture underscore the fact that the analysis here deals only with the effect of the NAFTA *per se*, and therefore depends critically on the existing levels of tariffs that will be removed and the extent to which nontariff barriers constrain their effects. In particular, as has been mentioned before, these effects should not be confused with the effects on these industries that may already be occurring as a result of previous Mexican liberalization and that will continue to occur whether or not a NAFTA is enacted.

In interpreting these sectoral employment results, one should also recall the assumption used in the various scenarios that the reductions in NAFTA tariffs, relaxation of U.S. and Mexican NTBs, and the expansion of FDI in Mexico take place all at once. If one were to take into account more realistically the likelihood that the trade liberalization would be phased in over a decade or more and that the expansion of Mexican investment would similarly take place over a series of years, the resulting changes in U.S. sectoral employment noted in Tables 5 and 6 would be considerably smaller when measured on an annual basis.

VI. Computational Results – Occupational Effects

While the economy-wide effects just discussed are useful in identifying the sectors that will be most impacted by a NAFTA, it is also desirable and important for policy purposes to have more detailed information concerning the occupational characteristics of the American workers involved. With this in mind, as mentioned above, a procedure has been incorporated into the NAFTA model that permits the employment changes to be broken down by major occupational groupings.

For this purpose, the "national matrix tape" was obtained from the U.S. Department of Labor. This tape contains two data sets: matrix data records and occupation/industry codes. The employment data are wage and salary employment. The occupation and industry code records consist of occupation titles and 8-digit codes and industry titles and 6-digit codes that relate to the 1972 3-digit Standard Industrial Classification (SIC).

The tape contains 602 occupational titles, including 491 detailed occupations and 111 summary occupations, for 1988 as well as projections for the year 2000. Nine categories were selected for purposes of aggregation for use in the NAFTA model, as follows:

(1) executive, administrative, and managerial occupations;
(2) professional specialty occupations;
(3) technicians and related support occupations;
(4) marketing and sales occupations;
(5) administrative support occupations, including clerical;
(6) service occupations;
(7) agriculture, forestry, fishing and related occupations;
(8) precision production, craft, and repair occupations (skilled); and
(9) operators, fabricators, and laborers (semi-/unskilled).

The occupational data for 1988 have been concorded from the SIC to the ISIC (International Standard Industrial Classification) used in the NAFTA model and have been used to estimate the occupational breakdown of the employment data for 1989, as reported in Appendix Table A-14. The percentage distributions across occupations appear in Table A-15.

With this occupational breakdown, it is possible to determine the occupational impacts by sector of a NAFTA for each of the five scenarios that have been run. This is done by multiplying the sectoral employment changes in Table 5 by the occupational percentages in Table A-15. This will permit identification of the occupations that will experience increases in employment and those that will experience declines.[22] The detailed results are recorded in Tables A-16 to A-20. The positive and negative occupational changes for NAFTA scenarios A.-D. are shown in Table 7. It should be noted that the total changes for each scenario in Table 7 sum to zero since, as discussed above, aggregate employment is being held constant throughout the various scenarios.

Table 7

Employment Changes by Occupational Group
Due to North American Free Trade (Scenarios A.-D.)
(Number of Workers)

Occupation	NAFTA Tariffs only (A)	NAFTA Tariffs and NTBs vs Mexico (B)	NAFTA Tariffs and NTBs (both) (C)	NAFTA Tariffs and FDI (D)
Executive	629	762	335	−833
Professional	−956	−738	−1016	−1806
Technical	245	358	223	−497
Marketing/Sales	1992	1663	1226	1510
Administrative/Clerical	485	742	56	−1922
Service	−794	−684	−982	−1239
Agriculture	−1296	−1721	1960	11162
Skilled	−1256	−853	−1442	−4418
Semi-/Unskilled	952	472	−362	−1958

Note: The employment changes listed sum to zero because aggregate employment is assumed constant in each scenario.

It is evident in NAFTA scenarios A.-C. in Table 7 that employment of executive, technical, marketing/sales, and administrative/clerical workers increases while there are declines in the employment of professional, service, and skilled workers. Employment of agricultural workers declines in scenarios A. and B. and increases in scenario C., due apparently to the expansion of Mexican quota limits applied to imports from the United States.

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[22] Further disaggregation of occupational groups beyond the nine categories is feasible and could be carried out in case the added details would be useful.

The inclusion of FDI in Mexico in scenario D. leads to an increase in employment of marketing/sales and agricultural workers and a decline in all other occupational categories.[23] These occupational employment shifts in scenario D. apparently reflect the stimulating effect that the capital inflow into Mexico has on Mexican manufacturing sectors coupled, as a result, with a lessening of the extent to which Mexican agriculture competes with the United States. This connection between a capital flow into one country and the employment of an occupation in another country is a good example of the multiple interconnections that the NAFTA CGE model can illuminate. It is further evident in Tables A-16 to A-19 that sectoral employment within individual occupational groups rises or falls. To trace through these changes, the positive/negative sectoral employment effects noted in Tables 5 and 6 should be consulted.

VII. Computational Results – Regional Effects

The NAFTA model also includes a facility for breaking down the sectoral employment results by state and region in addition to occupations. This is accomplished on the basis of a data sample of workers obtained from the Census Public Use Tapes. Each line of data in these files contains the number of individuals in a particular state, census industry, and occupation. The disaggregated occupational data have been classified into the nine occupational categories mentioned above, percentages calculated for sectors by state, and the states aggregated into nine major regions, as follows: New England; Middle Atlantic; East North Central; West North Central; South Atlantic; East South Central: West South Central; Mountain; and Pacific.[24] These percentages were used to estimate the regional and state breakdowns of the 1989 employment data, the levels of which are reported in Tables A-21 and A-23, with the percentages themselves in A-22 and A-24.

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[23] These changes in the number of workers constitute very small percentages of the various occupational categories. For example, the increase in agricultural employment of 11,162 workers in scenario D. represents about 0.4 percent of total agricultural employment. Most of the other percentage changes are even smaller.

[24] The states that comprise each region are: *New England*: CT, ME, MA, NH, RI, VT; *Middle Atlantic*: NJ, NY, PA; *East North Central*: IL, IN, MI, OH, WI; *West North Central*: IA, KS, MN, MO, NE, ND, SD; *South Atlantic*: DE, DC, FL, GA, MD, NC, SC, VA, WV; *East South Central*: AL, KY, MS, TN; *West South Central*: AR, LA, OK, TX; *Mountain*: AZ, CO, ID, MT, NV, NM, UT, WY; and *Pacific*: AK, CA, HI, OR, WA.

These percentages were used to calculate the region and state breakdowns of the sectoral employment changes from the various scenarios.[25] Because of the details involved, only the changes in U.S. employment by sector and region for scenario A. (elimination of NAFTA tariffs only) and D. (same as A. plus increased FDI in Mexico) are included here as Tables 8 and 9. The sector/region and the sector/state employment changes, for all remaining scenarios, are reported in Tables A-25 to A-32.

It is evident for scenario A. in Table 8 that there are total regional employment declines in: East North Central (−5,441 workers); West North Central (−17 workers); West South Central (−1,078 workers); Mountain (−331 workers); and Pacific (−1,173 workers).[26] Within each region, there are both increases and decreases in sectoral employment. For scenario D. in Table 9, the regional totals have the same signs as in Table 8, except for the Middle Atlantic region, which is now negative. The differences in sectoral results for the individual regions in Tables 8 and 9 reflect the inclusion of FDI in Mexico. The main sectors showing overall increases or decreases in employment correspond to the sectors identified in Table 6 above.

It should be recalled that these regional effects, like the others presented in this report, refer only to the effects of the NAFTA *per se*, and they should not be confused with the effects on these regions that may already be occurring as a result of previous Mexican liberalization. The Mexican liberalization has already caused expansion of trade with Mexico in regions close to the border, and this expansion will likely continue. It is not,

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[25] As in the occupational breakdowns, the procedure was to multiply the sectoral employment changes in Table 5 by the region and state percentages in Tables A-22 and A-24.

[26] The regional changes are very small in relation to total regional employment. For example, the decline of 5,441 workers in the East North Central region represents only about .03 percent of total employment in that region.

Table 8

Change in U.S. Employment by Sector and Region
due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

Sector	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1 Agr., For., & Fish.	-52	-111	-256	-329	-296	-130	-210	-117	-326	-1829
2 Min. & Quarry.	-15	-261	-355	-226	-539	-413	-1470	-657	-216	-4154
310 Food, Bev., and Tob.	-9	-36	-46	-26	-38	-17	-26	-8	-32	-239
321 Textiles	666	1096	374	128	5123	810	248	93	413	8951
322 Wearing Apparel	242	1058	422	220	903	539	415	111	480	4390
323 Leather Prod.	-14	-58	-17	-9	-48	-33	-18	-4	-21	-221
324 Footwear	-4	-3	-2	-2	-2	-2	-1	0	-1	-16
331 Wood Prod.	12	20	29	13	34	22	19	11	50	211
332 Furn. & Fixt.	44	79	123	41	148	73	67	35	163	772
341 Paper & Paper Prod.	151	251	351	81	261	124	121	15	157	1512
342 Print & Publ.	46	138	139	53	83	28	45	24	83	638
35A Chemicals	367	1320	1178	317	792	349	453	106	439	5322
35B Petrol. & Rel. Prod.	-1	-15	-19	-3	-5	-3	-16	-2	-8	-72
355 Rubber Prod.	56	144	172	62	138	68	123	33	110	905
36A Nonmetal Min. Prod.	13	62	87	36	62	30	53	25	52	419
362 Glass & Glass Prod.	-102	-798	-733	-62	-522	-168	-204	-39	-290	-2917
371 Iron & Steel	-10	-49	-96	-10	-17	-15	-14	-6	-17	-233
372 Nonferrous Metals	-394	-1026	-2063	-351	-638	-553	-570	-156	-790	-6541
381 Metal Prod.	131	273	445	107	170	90	121	44	185	1566
382 Nonelec. Mach.	1520	2474	3610	1376	1450	641	1324	657	2578	15631
383 Elec. Mach.	-1245	-2755	-3651	-825	-1588	-726	-1063	-506	-2194	-14554
384 Transp. Equip.	-1372	-2254	-7366	-1415	-1765	-901	-1518	-417	-3320	-20329
38A Misc. Manuf.	1052	2362	2621	936	1786	723	1126	489	1660	12755
4 Elec., Gas & Water	-2	-7	-8	-4	-8	-4	-6	-3	-6	-47
5 Construction	89	225	274	151	379	133	321	148	283	2003
6 Whole. & Ret. Trade	-9	-27	-32	-15	-29	-10	-19	-10	-28	-180
7 Transp., Stor., & Comm.	32	118	117	67	106	36	73	38	102	688
8 Fin., Ins., & Real Est.	-95	-295	-257	-109	-245	-74	-174	-86	-263	-1597
9 Comm., Soc., & Pers. Serv.	-168	-471	-484	-218	-488	-161	-277	-150	-416	-2834
Total	925	1456	-5441	-17	5204	456	-1078	-331	-1173	0

Table 9

Change in U.S. Employment by Sector and Region due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

Sector	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1 Agr., For., & Fish.	387	821	1893	2434	2188	965	1555	868	2414	13524
2 Min. & Quarry.	-21	-355	-482	-307	-732	-562	-1997	-893	-293	-5642
310 Food, Bev., and Tob.	66	263	336	186	274	120	186	60	234	1725
321 Textiles	882	1450	495	169	6782	1073	329	124	546	11851
322 Wearing Apparel	389	1706	681	355	1456	869	668	179	774	7077
323 Leather Prod.	12	52	15	8	43	30	16	3	18	198
324 Footwear	90	60	41	49	40	53	24	2	15	374
331 Wood Prod.	63	103	146	64	171	111	96	55	254	1063
332 Furn. & Fixt.	52	94	146	49	176	87	79	41	194	918
341 Paper & Paper Prod.	190	317	442	102	329	157	153	19	197	1907
342 Print & Publ.	64	195	196	75	117	40	64	34	117	903
35A Chemicals	443	1591	1420	381	954	420	546	128	528	6411
35B Petrol. & Rel. Prod.	-2	-23	-28	-4	-8	-4	-25	-3	-12	-110
355 Rubber Prod.	112	291	347	124	278	138	248	67	221	1826
36A Nonmetal Min. Prod.	16	79	111	45	79	38	68	32	66	534
362 Glass & Glass Prod.	-67	-526	-484	-41	-344	-111	-134	-26	-191	-1924
371 Iron & Steel	-23	-107	-209	-22	-36	-32	-32	-12	-37	-510
372 Nonferrous Metals	-795	-2071	-4166	-709	-1287	-1117	-1151	-314	-1595	-13206
381 Metal Prod.	152	317	517	124	197	104	141	51	215	1818
382 Nonelec. Mach.	1599	2601	3796	1447	1525	674	1392	691	2711	16435
383 Elec. Mach.	-2826	-6252	-8285	-1872	-3605	-1647	-2413	-1148	-4979	-33028
384 Transp. Equip.	-917	-1506	-4922	-945	-1180	-602	-1014	-279	-2218	-13583
38A Misc. Manuf.	716	1609	1785	637	1216	493	767	333	1131	8686
4 Elec., Gas & Water	-23	-75	-86	-38	-89	-48	-61	-34	-63	-516
5 Construction	61	154	188	103	260	91	220	101	194	1374
6 Whole. & Ret. Trade	-120	-346	-413	-189	-371	-130	-248	-131	-360	-2309
7 Transp., Stor., & Comm.	-2	-9	-9	-5	-8	-3	-6	-3	-8	-53
8 Fin., Ins., & Real Est.	-162	-503	-438	-186	-418	-126	-297	-147	-448	-2724
9 Comm., Soc., & Pers. Serv.	-179	-501	-516	-233	-520	-172	-295	-160	-443	-3018
Total	158	-570	-7483	1802	7484	910	-1122	-361	-819	0

however, the result of the tariff and NTB liberalization that will be carried out in a NAFTA.

VIII. Computational Results – Occupation and Region

The Census data also permit the employment changes for each industry to be broken down by both occupation and region simultaneously. Summing these results over all industries, the total changes in employment by occupation and region were obtained. Thus, in Table 10, for scenario A., which refers to NAFTA tariff elimination, the changes in employment by occupation are reported for each of the nine regions. The totals along the bottom and side of this table match those reported in Tables 7 and 8. The declines in the employment of skilled and semi-/unskilled workers are evidently concentrated in the East North Central, West South Central, Mountain, and Pacific regions. In the East North Central region, all of the occupational categories except marketing/sales show a decline. There are generally positive occupational employment effects in the other regions noted, except for agricultural and service workers.

The corresponding results for scenario D., which includes NAFTA tariff elimination plus an increase in FDI in Mexico, are shown in Table 11. The pattern of total changes for the individual occupational groups is different from the pattern for scenario A. noted in Table 10. There are declines for all of the occupational groups except marketing/ sales and agriculture. There is now an overall negative employment result for the Middle Atlantic region, and the overall negative effects are larger for the East North Central, West South Central, and Mountain regions. The occupational/regional employment results for scenarios B., C., and E. are given in Tables A-33 to A-35 in the Statistical Appendix.

IX. Computational Results – Effects by State

The changes in employment by sector for each of the 50 states and the District of Columbia are reported in Tables A-28 to A-32. These data broken down by state correspond to the data broken down by region that have just been discussed. For scenario

Table 10

Change in U.S. Employment by Region and Occupation
due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
Executive	162	302	-172	93	334	17	-93	-1	-14	629
Professional	19	83	-414	-28	-25	-36	-233	-78	-243	-956
Technical	63	127	-87	56	122	19	-49	8	-12	245
Mktg./Sales	113	360	339	185	301	99	238	93	263	1992
Admin./Clerical	151	363	-369	71	498	50	-165	-8	-106	485
Service	-30	-102	-299	-59	25	-48	-112	-50	-121	-794
Agriculture	-33	-71	-199	-283	-188	-94	-154	-76	-198	-1296
Skilled	81	38	-1095	10	660	-69	-334	-143	-405	-1256
Semi-/Unskilled	398	356	-3145	-62	3476	517	-177	-75	-336	952
Total	925	1456	-5442	-17	5204	456	-1078	-331	-1173	0

Table 11

Change in U.S. Employment by Region and Occupation due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
Executive	25	9	-475	-3	271	-29	-273	-88	-271	-833
Professional	-76	-147	-561	-36	-108	-48	-354	-127	-347	-1806
Technical	6	-9	-213	15	41	4	-134	-45	-164	-497
Mktg./Sales	84	323	236	149	250	75	167	70	156	1510
Admin./Clerical	-67	-190	-995	-45	344	-27	-417	-100	-425	-1922
Service	-70	-190	-430	-90	19	-70	-156	-83	-168	-1239
Agriculture	295	649	1626	2263	1741	786	1308	673	1821	11163
Skilled	-124	-597	-1842	-160	523	-280	-778	-384	-776	-4418
Semi-/Unskilled	84	-418	-4830	-290	4403	499	-486	-276	-645	-1958
Total	158	-570	-7483	1802	7484	910	-1122	-361	-819	0

A., which refers to NAFTA tariff elimination, it is evident from Table A-28 that there are two states that experience an overall decline in employment in excess of 1,000 workers: Michigan (−2,629) and Ohio (−1,404). There are four states that experience an overall increase in employment in excess of 1,000 workers: Georgia (1,063); New York (1,360); North Carolina (2,691); and South Carolina (1,373). In Georgia and the Carolinas, these increases are largely the result of the expansion in textiles that has been discussed above. In New York, the largest increases are in nonelectrical machinery and miscellaneous manufactures, reflecting that state's more diverse industrial base. For scenario D., which includes NAFTA tariff elimination plus an increase in FDI in Mexico, the results in Table A-31 indicate that there are six states that experience an overall decline in employment in excess of 1,000 workers: California (−1,022); Illinois (−1,218); Indiana (−1,673); Michigan (−2,091); Ohio (−2,338); and Pennsylvania (−1,303). There are three states for scenario D. that experience an overall increase in employment in excess of 1,000 workers: Georgia (1,656); North Carolina (3,681); and South Carolina (1,868).[27]

The changes in employment by occupation broken down by state for scenarios A.-E. are reported in Tables A-36 to A-40. These breakdowns provide an indication of how the statewide changes are dictributed across the different occupational groups. Aggregation of these statewide changes by region was indicated in Section VIII.

X. Labor Market Dislocation Measures and Wage Losses

The results of the different NAFTA scenarios discussed in the preceding sections indicate, as one would expect, that a NAFTA will favor some sectors, occupations, and locations over others in terms of demands for labor and thus employment. This suggests that workers will need to move among these various segments of the labor force in order to remain employed and therefore, depending on how difficult and costly such movement turns out to be, that there could conceivably be considerable cost in terms of labor-market dislocation as a result of a NAFTA. An important purpose of this study is to quantify the extent of this dislocation.

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[27] The changes in state employment noted are very small in relation to total state employment. For example, the employment declines of 2,629 workers in Michigan and 1,404 workers in Ohio constitute 0.06 percent and 0.03 percent, respectively, of each state's total employment.

Unfortunately, labor-market dislocations can take several forms, and it is difficult to know which are the most serious and how they can be compared. Some workers may lose their jobs in particular industries, but because they live in regions where employment is otherwise expanding, they may have little difficulty finding work in another industry. Similarly, other workers in contracting sectors may possess skills that are in great demand elsewhere, and they too may be able to relocate without significant difficulty. Since one cannot know how individual workers will experience these different effects, this study instead reports a variety of different measures of labor market dislocation. Each focuses on a different dimension of adjustment that workers may have to make.

All of the measures are necessarily derived for the level of aggregation that is built into the model.[28] It could be objected that this level of aggregation is too large and that it therefore understates the extent of dislocation that will actually occur. For example, it may be that the employment decline of 20,328 workers in the transport equipment industry that is reported in Table 5 for scenario A. is actually the result, say, of a larger decline in the auto industry combined with a gain in employment in the truck industry. If so, then the analysis understates the numbers of workers who will lose their jobs as a result of a NAFTA. Were it possible to repeat the analysis using progressively more and therefore smaller sectors, the extent of dislocation as measured here would almost certainly rise.

On the other hand, as this example indicates, what is important is not that the industry be somehow completely disaggregated, but rather that the level of aggregation correspond well to the problems of dislocation that are being measured. If auto workers are readily re-employed in the truck industry, then regarding autos and trucks as separate sectors for this purpose would be misleading. It is therefore not clear what the most appropriate level of aggregation may be. In any case, comparable employment data on a more disaggregated basis are not readily available.

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[28] It should be noted that the 29-sector aggregation used in the model was dictated by considerations of data availability on employment in UN sources for all the countries included in the model.

Labor Market Dislocation Measures

Thus, the first measure to be reported focuses only on industrial sectors, that is, the numbers of workers who will have to move from one sector to another, at prevailing relative wages, in order to find work. This is calculated for each scenario as just the sum of the employment changes for those sectors where employment declines. This would be the best measure of labor market dislocation under the assumption that the most difficult transition for a worker to make is from one industry to another, while changes in occupation and/or location are relatively easy. Since the latter assumption is in fact implausible, however, several other measures of labor market dislocation are calculated to reflect alternative assumptions that occupations and/or locations are the most difficult to change.

Table 12 then presents results for six measures of labor market dislocation for each of the five scenarios. All of these have been calculated by summing the negative entries in the relevant tables, with the six measures defined as follows:

(1) labor dislocations across sectors — number of workers who would have to change industries;[29]

(2) labor dislocations across occupations — number of workers who would have to change occupations;[30]

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[29] Derived from Table 5.

[30] Derived from Tables 7 and A-16 to A-20.

Table 12

U.S. Labor Market Dislocation Measures
(Numbers of Workers over Ten Years)

Labor Dislocation*	NAFTA Tariffs only (A)	NAFTA Tariffs and NTBs vs Mexico (B)	NAFTA Tariffs and NTBs (both) (C)	NAFTA Tariffs and FDI (D)	US-Can FTA Tariffs (E)
Across Sectors	55763	54089	53632	76623	44619
Across Occupations	4303	3996	3800	12673	4048
Across Regions	8041	7304	6934	10355	7954
Across States	10220	9480	9335	13763	9935
Across Occupation and Region	10092	9369	9170	18918	9869
Across Occupation and State	12501	11797	11677	21681	11972

*In each case, dislocation is measured as the sum of the negative employment changes in sectors, occupations, etc. Since employment changes for occupations, regions, and states are constructed from those for sectors, it would be inappropriate to add the numbers in the table.

(3) labor dislocations across regions — number of workers who would have to change regions;[31]

(4) labor dislocations across states — number of workers who would have to change states;[32]

(5) labor dislocations across occupations and regions — number of workers who would have to change either their occupation or their region;[33] and

(6) labor dislocations across occupations and states — number of workers who would have to change either their occupation or their state.[34]

The measure of labor market dislocation across sectors represents the number of workers who would have to shift their employment out of their present sector to some other sector. For NAFTA scenario A., 55,760 workers would be affected, and for NAFTA scenario D., 76,620 workers would be affected. These workers would presumably find employment in the sectors for which employment is expanded, but without regard to their particular occupation or region. Workers who would have to change occupation and possibly move across regions/states as well would probably experience the most severe dislocation. But it is interesting that the labor market dislocation measures across occupations, across regions/states, and across occupation and regions/states are all considerably smaller than the intersectoral employment shifts noted.

Comparing across the scenarios, it is notable that the greatest numbers of workers are dislocated, in terms of any of the measures, by the formation of the full NAFTA together with induced FDI into Mexico (scenario D.). The dislocations associated with NAFTA tariff removal and with expansion of import-quota limitations in the United States and Mexico are roughly comparable. It is interesting that in scenario E., which refers to a U.S.-Canada FTA only, the sectoral dislocation is smaller than with a NAFTA, but is comparable to the other NAFTA dislocation effects in scenarios A.-C.

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[31] Derived from Tables 8, 9, and A-25 to A-27.

[32] Derived from Tables A-28 to A-32.

[33] Derived from Tables 10, 11, and A-33 to A-35. This is smaller than the sum of measures (2) and (3) by the number of workers who must change *both* occupation and region.

[34] Derived from Tables A-36 to A-40. This is smaller than the sum of measures (2) and (4) by the number of workers who must change *both* occupation and state.

It should also be noted that these results for labor-market dislocation are really very small. Total employment in the United States is 116 million workers in the data base for 1989. Thus even the largest measure of labor-market dislocation reported – 76,620 workers for dislocation across industries due to a NAFTA with FDI in Mexico – is less than one tenth of one percent of the labor force. Since, as will be discussed below, there are a number of reasons to expect that even this is an overestimate, the calculations noted suggest that labor market dislocation due to a NAFTA will not be a serious problem.

Wage Losses Due to Labor Market Dislocation

The various employment changes reported in the foregoing tables can also be used to calculate estimates of wage losses due to the different NAFTA scenarios. For this purpose, data have been drawn from the January 1990 Displaced Worker Survey (DWS) that provides information on the wage before displacement and the duration of unemployment.[35] It is then possible to calculate the average wages lost by sector, occupation, region, and state to correspond with the categories used in the employment change calculations. The calculations of the average wages lost for each of these categories are shown in Tables A-41 to A-44 in the Statistical Appendix.

Assuming that this experience would be characteristic of the workers who would experience displacement as the result of a NAFTA, one can then multiply the number of displaced workers times the average wage loss. The results are reported in Table 13.

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[35] The DWS, which is conducted by the U.S. Bureau of the Census, is a special supplement to the monthly Current Population Survey (CPS). For an analysis and compilation of the evidence based on the January 1984, 1986, 1988, and 1990 DWS, see Podgursky (1991).

That is, for each of the workers identified as displaced in Table 12, the data from Tables A-41 to A-44 have been used to calculate the cost to them of their displacement. In the case of labor dislocation across industries, for example, the decline in employment in each contracting sector was multiplied by the lost wages per displaced worker in that sector, and the results were then summed over all contracting sectors. Similarly, labor dislocation across occupations, regions, and states was obtained by using the lost wages for these categories to value the declines in employment in those where employment contracted. In the final two measures that combine occupations with locations, a simple average of the lost wages for these two categories was used.[36]

It can be seen for NAFTA scenarios A. and D. that the total wage losses over ten years across sectors are $285.4 and $392.8 million, respectively. For NAFTA scenarios B. and C., the wage losses across sectors are $274.3 million and $278.8 million, respectively. For a U.S.-Canada FTA in scenario E., the wage loss across sectors is $223.4 million.

In interpreting these sectoral wage loss calculations, it should be noted that they are based on the assumed introduction of the NAFTA all at one time. Realistically, of course, the NAFTA would be phased in over a period of a decade or more, depending on what is actually decided in the negotiations. If the effects were spread uniformly, it might be assumed that about one-tenth of the wage losses indicated would be experienced in any given year. But even this may be an exaggeration of the wage loss since no account is taken here of worker attrition due to voluntary quits and retirement decisions. Further, no allowance has been made for sectoral relative wage adjustments that would affect worker incentives for changing employment between sectors.

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[36] These calculations of wage losses do not take into account the characteristics of individual workers and the ease or difficulty experienced in finding new employment. Rather, the wage losses should be interpreted as representing the average experiences of displaced workers during the period in 1989 covered by the DWS.

Table 13

U.S. Labor Market Dislocation Measures: Millions of Dollars of Lost Wages

Labor Dislocation	NAFTA Tariffs only (A)	NAFTA Tariffs and NTBs vs Mexico (B)	NAFTA Tariffs and NTBs (both) (C)	NAFTA Tariffs and FDI (D)	US-Can FTA Tariffs (E)
Across Sectors	285.35	274.30	278.84	392.82	223.36
Across Occupations	14.07	11.83	14.38	49.79	15.46
Across Regions	33.87	30.79	28.94	43.12	33.73
Across States	41.18	38.20	37.17	52.91	41.66
Across Occupation and Region	38.42	34.98	36.09	75.19	38.94
Across Occupation and State	47.15	43.90	45.04	83.45	47.21

Later in the report, these costs of labor market dislocation will be compared with the resources that are available through various programs of adjustment assistance in the United States. For that purpose, based upon these results in Table 13, a plausible upper bound on the wage loss due to a NAFTA appears to be $40 million annually. This is based on the largest entry in Table 13, assumed to be spread uniformly over a phase-in period of ten years.[37]

XI. Effects of Cross-Border Migration

In the results for the scenarios reported in the preceding sections, it was assumed that no change in the total labor force of any country occurs as a result of the NAFTA and the U.S.-Canada FTA considered. In the case of the United States and Mexico especially, however, there are reasons to think that a NAFTA might have some effect on migration flows between the two countries. In this section several additional scenarios are provided that take migration flows into account. These scenarios, denoted through F.-I., are described schematically in Figure 1. The choices of assumptions about migration that they include require further explanation.

Determinants of Migration

There are two distinct and quite different ways that migration might be affected by a NAFTA, depending upon the interpretation of the barriers to migration that exist between the United States and Mexico and the expectation of what may happen to these barriers as a result of a NAFTA. Implicitly the analysis so far has assumed that such barriers exist, and that neither they nor their effects on migration will be altered by a NAFTA.

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[37] It is conceivable that the labor market dislocations and associated wage losses could be concentrated more in some years than in others, depending upon time lags in the adjustment process in the labor market and in additions to sectoral capital stocks. In the absence of information about those lags, it was decided to assume a uniform response annually.

A NAFTA is not expected formally to change the barriers to migration. Under that assumption, however, the amount of migration could nonetheless be changed if a NAFTA alters the incentives to permeate those barriers. Suppose that the level of migration is the result of an interaction between the barriers to migration themselves, on the one hand, and the incentive to migrate, on the other, this incentive being the wage differential that exists between the two countries. Then if that wage differential changes, the equilibrium amount of migration will also change and thus should be taken into account in the calculation.

As already noted, the results in Table 1 above suggest that a NAFTA will increase the wage in Mexico relative to the United States. This then implies that, given a fixed level of resistance to migration, the actual amount of migration into the United States seeking the higher wage will decline. This is modeled, therefore, as a movement of workers from the United States into Mexico.

The extent of this change should depend theoretically on the interactions between the barriers to migration and the incentives to migrate. A simple assumption, however, is to allow enough migration to occur to leave the wage differential between the two countries unchanged. This is the approach chosen in scenario F. below, and it turns out to involve a movement of labor into Mexico equal to about one percent of the Mexican labor force.

A second and quite different effect is possible, on the other hand, if a NAFTA serves to reduce barriers to migration. While it has not been suggested that a NAFTA will include any formal relaxation of such barriers, many observers do expect that the increased economic interactions between the United States and Mexico in other dimensions will nonetheless make it easier for workers to cross the border. If this is true, since most of the large differential between wages in the two countries will in any case remain, an increase might be expected in migration from Mexico to the United States. This is taken into account in scenario G. below, in which the reductions in trade barriers due to a NAFTA are accompanied by movements of labor from Mexico to the United States. Since there is no basis for determining the amount of migration that would take place in this case, it is arbitrarily assumed that there is a movement of 5 percent of the Mexican labor force into the United States. Both scenarios F. and G. combine these migration flows with a NAFTA excluding FDI, identical to scenario A. above but with migration added.

Finally, there are two additional scenarios H. and I., which include FDI into Mexico along with a NAFTA and migration flows. Since the inclusion of FDI in scenario D. above resulted in a substantial rise in the Mexican wage, scenario H. assumes migration into Mexico to the extent of 5 percent of the Mexican labor force. Scenario I., like scenario G., assumes migration of this same amount into the United States, together with a NAFTA that includes FDI.

Cross-Border Migration Employment Results

The aggregate results for scenarios F.-I. are reported in Table 14. It is noteworthy in scenarios F. and H. that U.S. welfare declines and Mexican welfare rises when there is a remigration of workers from the United States to Mexico. Correspondingly, U.S. welfare increases in scenarios G. and I. when there is out migration of workers from Mexico to the United States. The reason for these results is that migration is assumed to reduce/add to the respective countries' labor forces. In scenario I., the increase in FDI in Mexico is apparently sufficient to offset the negative welfare effects of the assumed out migration of Mexican workers to the United States. The effects on real wages and the return to capital are shown in the last two columns of Table 14. It is interesting that U.S. real wages rise by 0.2 percent in all four scenarios, whereas the return to capital falls somewhat in scenarios F. and H. with the assumed remigration of Mexican workers from the United States to Mexico.

Table 15 reports sectoral employment changes in percentages and in thousands of workers for these migration scenarios, F.-I. In addition, these employment changes are allocated across occupations and regions in Tables 16 and 17 for scenarios F. and G. only. Not surprisingly, when labor is assumed to migrate from the United States to Mexico, as

TABLE 14

SUMMARY RESULTS OF A NORTH AMERICA FREE TRADE AGREEMENT AND LABOR MIGRATION: CHANGES IN COUNTRY IMPORTS, EXPORTS, TERMS OF TRADE, WELFARE, AND RETURN TO LABOR AND CAPITAL
(Trade in Millions of U.S. Dollars)

COUNTRY	IMPORTS* (2)	EXPORTS* (3)	TERMS OF TRADE PERCENT CHANGE (4)	EQUIVALENT VARIATION		WAGE RATE PERCENT CHANGE (7)	RETURN TO CAPITAL PERCENT CHANGE (8)
				PERCENT (5)	MILLIONS (6)		
F. NAFTA: Tariff Elimination and Remigration of 1% of Mexican Labor Force							
United States	8575.0	7346.3	0.3	-0.1	-7218.8	0.2	-0.0
Other	-696.0	-447.0	-0.0	-0.0	-1511.3	-0.1	-0.1
Canada	4923.0	5724.1	-0.7	0.7	3804.7	0.6	0.6
Mexico	2594.5	2825.9	-0.9	1.9	2376.8	0.0	0.9
G. NAFTA: Tariff Elimination and Out Migration of 5% of Mexican Labor Force							
United States	10422.8	9311.6	0.2	1.1	56052.2	0.2	1.1
Other	-893.8	-306.2	-0.1	-0.0	-3560.0	-0.0	-0.1
Canada	5127.1	5999.3	-0.7	0.7	3917.4	0.2	0.3
Mexico	2808.5	3104.8	-1.1	-1.0	-1226.4	1.8	-1.0
H. NAFTA: Tariffs, FDI and Remigration of 5% of Mexican Labor Force							
United States	8174.4	7424.0	0.1	-0.9	-45495.7	0.2	-0.7
Other	6921.8	-4565.4	0.3	0.0	1976.7	-0.1	0.1
Canada	4828.2	5621.9	-0.7	0.7	3768.2	0.9	0.9
Mexico	624.7	11282.6	-4.4	7.2	9134.9	5.5	4.2
I. NAFTA: Tariffs, FDI and Out Migration of 5% of Mexican Labor Force							
United States	11258.1	10704.0	0.1	1.2	58438.8	0.2	1.1
Other	6591.8	-4325.6	0.2	-0.0	-1618.2	0.1	0.3
Canada	5169.7	6081.3	-0.8	0.7	3906.9	0.3	0.4
Mexico	980.6	11747.1	-4.8	2.1	2653.0	8.7	1.1

*Exports and imports valued in U.S. dollar base period prices.

F. Trilateral tariff removal and labor migration into Mexico from the United States equal to one percent of the Mexican labor force.

G. Trilateral tariff removal and labor migration into the United States from Mexico equal to 5 percent of Mexico's labor force.

H. Trilateral tariff removal with foreign direct investment into Mexico equal to 10 percent of Mexico's capital stock and labor migration from the United States into Mexico equal to 5 percent of Mexico's labor force.

I. Trilateral tariff removal with foreign direct investment into Mexico equal to 10 percent of Mexico's capital stock and labor migration from Mexico into the United States equal to 5 percent of Mexico's labor force.

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Table 15

Sectoral Employment Effects on the United States of North American Free Trade
With Migration, Scenarios (F) - (I)
Percentage Change; Number of Workers

ISIC Sector	Percentage Change in Employment				Change in Number of Workers			
	NAFTA Tariffs only 1% into Mex. (F)	NAFTA Tariffs only 5% into U.S. (G)	NAFTA Tariffs and FDI 5% into Mex. (H)	NAFTA Tariffs and FDI 5% into U.S. (I)	NAFTA Tariffs only 1% into Mex. (F)	NAFTA Tariffs only 5% into U.S. (G)	NAFTA Tariffs and FDI 5% into Mex. (H)	NAFTA Tariffs and FDI 5% into U.S. (I)
1 Agr., For., & Fish.	-0.19	0.67	-0.38	1.04	-7,717	27,573	-15,891	42,937
2 Min. & Quarry.	-0.67	1.18	-2.04	1.05	-7,690	13,567	-23,350	12,079
310 Food, Bev., and Tob.	-0.29	1.38	-1.31	1.47	-6,169	29,413	-27,927	31,376
321 Textiles	0.43	1.94	-0.36	2.16	5,629	25,556	-4,755	28,456
322 Wearing Apparel	-0.06	2.01	-1.26	2.18	-910	30,886	-19,416	33,573
323 Leather Prod.	-0.65	2.03	-2.05	2.42	-702	2,186	-2,209	2,604
324 Footwear	-0.33	1.62	-1.44	1.82	-650	3,151	-2,793	3,541
331 Wood Prod.	-0.13	0.84	-0.65	0.96	-897	5,747	-4,474	6,600
332 Furn. & Fixt.	-0.13	1.46	-1.17	1.48	-770	8,483	-6,793	8,628
341 Paper & Paper Prod.	-0.04	1.23	-0.84	1.28	-315	10,648	-7,230	11,043
342 Print & Publ.	-0.14	0.94	-0.85	0.96	-2,407	15,860	-14,320	16,124
35A Chemicals	0.28	1.16	-0.23	1.24	3,474	14,562	-2,831	15,651
35B Petrol. & Rel. Prod.	-0.22	0.87	-0.96	0.85	-428	1,708	-1,889	1,670
355 Rubber Prod.	0.03	1.61	-0.74	1.91	81	5,021	-2,290	5,943
36A Nonmetal Min. Prod.	-0.14	1.13	-0.97	1.15	-832	6,673	-5,720	6,788
362 Glass & Glass Prod.	-1.37	-0.84	-1.29	-0.41	-3,117	-1,917	-2,925	-922
371 Iron & Steel	-0.21	0.92	-0.99	0.89	-2,119	9,193	-9,938	8,916
372 Nonferrous Metals	-1.92	-0.38	-4.64	-2.07	-7,552	-1,485	-18,259	-8,150
381 Metal Prod.	-0.13	1.12	-0.95	1.13	-2,643	22,609	-19,227	22,861
382 Nonelec. Mach.	0.25	1.53	-0.58	1.56	8,437	51,584	-19,529	52,389
383 Elec. Mach.	-0.78	0.61	-2.41	-0.08	-20,721	16,268	-63,856	-2,205
384 Transp. Equip.	-1.10	0.75	-2.07	1.01	-28,206	19,046	-52,967	25,791
38A Misc. Manuf.	0.32	2.23	-1.16	2.03	6,383	44,608	-23,171	40,538
4 Elec., Gas & Water	-0.42	2.10	-2.13	2.07	-6,962	34,524	-35,087	34,056
5 Construction	-0.20	1.16	-1.11	1.15	-14,404	84,030	-80,651	83,403
6 Whole. & Ret. Trade	-0.31	1.53	-1.54	1.52	-72,632	362,090	-364,570	359,958
7 Transp., Stor., & Comm.	-0.25	1.30	-1.29	1.29	-14,775	77,992	-77,357	77,252
8 Fin., Ins., & Real Est.	-0.38	1.82	-1.86	1.81	-37,449	177,689	-182,002	176,560
9 Comm., Soc., & Pers. Serv.	-0.24	1.14	-1.16	1.14	-87,560	420,841	-426,675	420,647

Table 16

Change in U.S. Employment by Region and Occupation
due to NAFTA, Tariff Elimination and Remigration
of 1% of Mexican Labor Force, Scenario F.
(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
Executive	-1723	-4987	-5575	-2348	-5113	-1593	-3474	-1842	-5379	-32034
Professional	-2404	-6328	-6654	-2687	-5795	-1928	-3687	-2059	-5915	-37458
Technical	-516	-1316	-1617	-603	-1387	-485	-1033	-537	-1504	-8997
Mktg./Sales	-1719	-4745	-5610	-2484	-5122	-1795	-3537	-1690	-5164	-31867
Admin./Clerical	-3123	-9459	-10062	-3926	-8102	-2783	-5794	-2669	-8386	-54305
Service	-2214	-6342	-7576	-3258	-6196	-2206	-4003	-2263	-5846	-39902
Agriculture	-254	-593	-1278	-1685	-1281	-568	-968	-551	-1387	-8563
Skilled	-2004	-5338	-7779	-2825	-5624	-2533	-5144	-2377	-5672	-39296
Semi-/Unskilled	-2463	-7640	-13667	-3894	-5534	-3643	-5611	-2274	-6473	-51200
Total	-16420	-46749	-59817	-23709	-44153	-17533	-33251	-16262	-45727	-303620

Table 17

Change in U.S. Employment by Region and Occupation
due to NAFTA, Tariff Elimination and Out Migration
of 5% of Mexican Labor Force„ Scenario G.
(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain·	Pacific	Total
Executive	9589	26751	26842	12297	27571	8067	16817	9204	26810	163949
Professional	12138	32139	30784	13266	28830	9426	17043	9828	28118	181569
Technical	2959	7343	7560	3347	7666	2540	4867	2729	7449	46459
Mktg./Sales	9273	25890	30083	13533	27419	9574	19114	9008	27399	171292
Admin./Clerical	16525	49475	48098	20054	43496	14217	27987	13294	41297	274443
Service	10887	31098	36091	15937	31133	10742	19346	11016	28505	194754
Agriculture	1070	2534	5189	6721	5274	2272	3912	2294	5743	35008
Skilled	10504	26920	32324	14183	32082	12252	23717	11033	25926	188940
Semi-/Unskilled	14703	40333	49461	19096	48523	21316	26994	10923	30347	261695
Total	87647	242484	266430	118433	251993	90406	159798	79327	221593	1518098

in scenarios F. and H., employment in most if not all U.S. sectors declines, while an inflow of migration leads to the opposite effect. What is surprising perhaps is that there are a few exceptions to this pattern. Even when five percent of the Mexican labor force migrates into the United States along with the formation of a NAFTA with FDI in scenario I., there are still three sectors in which employment declines: glass and glass products (−922 workers), nonferrous metals (−8,150 workers), and electrical machinery (−2,205 workers). This is in part a reflection of the small size of the Mexican labor force compared to the United States, and also of the importance of the investment flow into Mexico.

U.S. Labor Market Dislocation Due to Cross-Border Migration

In the earlier NAFTA and FTA trade liberalization scenarios, labor market dislocation was inferred whenever the level of employment in a cell of the economy — an industry, region, state, or occupation — was calculated to fall. This simple approach is no longer appropriate when there is migration, since the aggregate levels of employment are also changing. What is appropriate, however, is not altogether clear.

Consider for example a situation in which there is an outflow of migration, as in the United States in scenario F. Overall employment falls, and therefore the sum of the negative employment changes is naturally much larger than it was in the earlier scenarios where aggregate employment was constant. Not all of this reduction in employment is likely to represent dislocation in the United States, however, since by assumption a number of workers are leaving their jobs voluntarily and crossing national borders. Only in the unlikely event that all of the migrating workers were to leave the expanding sectors would all of the declines in employment in other sectors represent dislocations. At the opposite extreme, if all of the migrating workers happened to leave from cells where employment was contracting, then the appropriate measure of dislocation would be the sum of the employment decreases minus the amount of migration.

There is no way of knowing from which industries migrating workers will leave (and enter, in the other country), and therefore no way of choosing between these two extremes. The approach chosen is therefore a more neutral course, as follows. It is assumed that workers who migrate out of a country leave the various employment cells in proportion to initial employment there. Thus the direct effect of emigration of some percentage of the aggregate labor force is assumed to be a voluntary decline in employment by that same percentage in every part of the economy, and these direct employment reductions are not regarded as dislocations in that country. Only employment decreases in excess of this percentage are taken as dislocations, and it is these that are aggregated to obtain the measures of total dislocation reported below.

A similar assumption is made for aggregate employment increases due to immigration. These workers are assumed also to attempt to distribute themselves across the economy in proportion to initial employment levels. Then if demand for labor in a cell fails to expand by enough to absorb these immigrants, they are regarded as dislocated. Thus, in a cell where demand for labor contracts, that contraction plus the percentage of immigration are both dislocated. And in a sector where labor demand expands, dislocations are zero only if the expansion is greater than the percentage of immigration. Note that even if the migrating workers themselves are lucky enough to find jobs, this calculation takes into account the dislocations of any workers they may displace.

Computational Results of Dislocation

Tables 18 and 19 report the various measures of labor-market dislocation for the four scenarios involving migration. Comparing to Tables 12 and 13, it is not surprising that the additional disturbance of migration generally leads to greater amounts of labor-market dislocation and wage losses. For example, when a small amount of emigration is added to the basic NAFTA run, comparing scenario A. (tariffs only) to scenario F. (tariffs only and emigration from the United States to Mexico), dislocation across sectors rises from 55,760 workers to 75,700 workers over ten years and the associated wage losses rise from $285.4 million to $366.2 million. The comparable results for scenario D (tariffs and FDI in Mexico) and scenario H (tariffs, FDI in Mexico, and emigration from the United States to Mexico) are 76,623 and 195,210 workers and $392.8 million and $845.8 million in lost wages over ten years.[38] On this basis, a plausible upper bound on the wage loss due to a NAFTA, taking cross-border migration into account, can be taken to be $80 million annually spread over ten years. As was the case for scenarios A.-E., it is evident that the dislocations and wage losses across occupations/regions/states are all considerably smaller than across sectors when allowance is made for cross-border migration.

Thus, it is clear that the assumptions about cross-border migration are important to the detailed results. It is unfortunate that there is so little understanding concerning what these flows will be. Nevertheless, even though these results indicate a substantial increase in dislocations when migration is included, the total dislocations still remain very small in comparison to the U.S. labor force and, as will be noted below, the costs of these dislocations remain manageable in comparison to the total expenditures of various existing U.S. adjustment assistance programs.

XII. Adjustment Assistance for Workers Displaced by a NAFTA

Providing adjustment assistance to workers displaced by imports has long been acknowledged as a desirable goal of government policy in the United States. Arrangements for such assistance were first introduced in the Trade Expansion Act of 1962 and have been continued in subsequent years. The current authorization for trade adjustment assistance (TAA), which is provided in the Omnibus Trade and Competitiveness Act of 1988, runs through 1993.

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[38] Interestingly, the amount of dislocation does not seem to differ appreciably between scenario H. in which 5% of the Mexican labor force moves from the United States into Mexico and scenario I. in which the same amount of labor moves in the other direction. However, examination of the sectoral, occupational, and location details indicates that the cells in which these dislocations occur do depend importantly on the direction of the migration flow.

Table 18

U.S. Labor Market Dislocation Measures
Scenarios F. – I., with Migration
(Number of Workers)

Labor Dislocation	NAFTA Tariffs only 1% into Mex. (F)	NAFTA Tariffs only 5% into U.S. (G)	NAFTA Tariffs and FDI 5% into Mex. (H)	NAFTA Tariffs and FDI 5% into U.S. (I)
Across Sectors	75,700	166,500	195,210	168,930
Across Occupations	7,050	48,340	47,670	43,980
Across Regions	8,200	10,100	13,270	9,980
Across States	10,630	13,820	18,640	14,460
Across Occupation and Region	11,610	51,770	52,440	48,160
Across Occupation and State	14,350	53,590	55,090	50,130

Table 19

U.S. Labor Market Dislocation Measures
Scenarios F. – I., with Migration: Millions of Dollars of Lost Wages

Labor Dislocation	NAFTA Tariffs only 1% into Mex. (F)	NAFTA Tariffs only 5% into U.S. (G)	NAFTA Tariffs and FDI 5% into Mex. (H)	NAFTA Tariffs and FDI 5% into U.S. (I)
Across Sectors	366.22	617.22	845.85	685.05
Across Occupations	24.93	162.39	178.09	171.09
Across Regions	34.51	39.21	55.03	40.70
Across States	42.91	51.69	73.20	53.73
Across Occupation and Region	44.56	187.38	199.73	187.56
Across Occupation and State	54.61	190.98	206.76	191.24

In order to put TAA in perspective, it should be noted that the United States has several other programs that are intended to provide help to unemployed and disadvantaged workers. The amounts authorized for the various programs currently administered by the Employment and Training Administration (ETA) of the U.S. Department of Labor for the 1991 and 1992 fiscal years and the President's budget authorization for fiscal year 1993 are listed in Table 20. It is evident that the main authorizations are for the Job Training Partnership Act (JTPA) and the state unemployment insurance (UI) and employment service (ES) activities. TAA benefits and training account for less than 3 percent of the total ETA budget authority. To put the U.S. labor market policies and programs in perspective, some comparisons with other major industrialized countries may be useful.

International Comparisons of Labor Market Policies

The main features of the unemployment insurance programs in the United States, Canada, France, Germany, Japan, and the United Kingdom are summarized in Table 21. It is evident, as Rosen (1991, p. 16) notes, that the United States has the lowest benefits package and the shortest time periods as compared to the other major industrialized countries listed. Further, it can be seen in Table 22 that total U.S. expenditures on all labor-market programs and, in Table 23, U.S. expenditures on training are significantly below expenditures in the other major industrialized countries.

While the United States is evidently on the low end of the spectrum in its expenditures on labor market programs, it should be pointed out that the United States may rely more on private sector programs as compared to other major countries. For this and other reasons, the data in Tables 21–23 need to be treated cautiously. As noted in OECD (1990, p. 51):

> "As with all attempts to arrive at internationally comparable micro data the principal difficulty stems from differences in the institutional arrangements in individual countries. These institutional differences, in turn, reflect national traditions, priorities and customs. The present data system emphasizes the quantitative aspects and neglects the qualitative aspects of a country's labour market policy. It was already stressed ... that countries which rely more heavily on non-financial means of public action and those in which the private sector plays

Table 20

Employment and Training Administration, U.S. Department of Labor
Summary of Budget Authority, Fiscal Years 1991-1993
(Millions of Dollars)

	Fiscal Year 1991	Fiscal Year 1992	Fiscal Year 1993 President's Budget
Training and Employment Services	4,079.3	4,029.2	4,136.4
Job Training Partnership Act (JTPA)	4,066.6	4,019.9	4,119.4
Grants to States	2,988.3	2,845.7	3,031.4
Block Grant	1,778.5	1,773.5	1,771.5
Summer	682.9	495.2	682.9
EDWAA	527.0	577.0[a]	577.0[a]
Federally Administered Programs	1,078.3	1,174.2	1,088.0
Homeless Job Training	12.7	9.3	17.0
Community Service Employment for Older Americans	390.4	395.2	342.8
Federal Unemployment Benefits and Allowances	269.5	226.2	211.2
TAA Benefits	198.0	154.0	136.0
TAA Training	71.0	72.0	75.0
Other	0.5	0.2	0.2
State Unemployment Insurance (UI) and Employment Service (ES) Operations	3,019.0	3,400.1	3,207.5
Unemployment Compensation	2,134.4	2,476.3	2,315.9
Employment Service	884.5	923.8	891.6
Program Administration	122.1	128.3	136.3
Advances	328.0	237.0	665.0
Grand Total, ETA	8,208.3	8,416.0	8,699.2

[a] Includes $50.0 appropriation for dislocated workers in connection with the Clean Air Act.

Source: U.S. Department of Labor, Employment and Training Administration (ETA).

Table 21

International Comparison of Unemployment Insurance Programs

	Eligibility	Benefits	Financing
United States	Varies by state.	Income maintenance payments average 35 to 40 percent of previous year's wages for 26 weeks. Benefits can be extended for 13 weeks in cases of severe economic downturn. Some job search assistance is available. Training provided under JTPA (EDWAA).	Employer contributions vary by state.
Canada	Minimum of 10 weeks of work with contributions.	Sixty percent of previous earnings up to $680/week. Term of coverage depends on employment history and regional unemployment level. No possibility of extension. Some training available.	Employer and employee contributions. Employer contribution is 140 percent of employee contribution.
France	Minimum employment of 3 months, with contributions.	Benefits based on length of previous employment, ranging from 30 to 75 percent of previous wages. Training and job counseling also available.	Employer and employee contributions. Employer contributions are between 150 and 180 percent of employee contributions.
Germany	Must be employed for at least one year over a 3 year period.	Benefits range from 63 to 68 percent of previous earnings, depending on family status. Benefit term depends on days worked and age, with a minimum of 22 weeks.	Equal employer and employee contributions.
Japan	Must be employed for 6 months prior to layoff.	Benefits range from 60 to 80 percent of previous wages, for 90 to 300 days, depending on worker's age and length of contribution to insurance fund.	Employer and employee contributions.
United Kingdom	Must be employed for at least one full year, making contributions	Benefits based on marital and family status, and not linked to previous earnings. Can receive benefits for up to one year. No extensions are available. Job counseling and training are available.	Employers contribute between 5 and 10 percent of wages and employees contribute between 7 and 9 percent of their wages.

Source: Adapted from Rosen (1991, Table 2).

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Table 22

Public Sector Expenditure on Labor Market Programs as a Percentage of Gross Domestic Product (GDP) in the Major Industrialized Countries, 1988

Country	Labor Market Training	Unemployment Compensation	All Other	Total Labor Market Programs
Australia	0.06%	0.99%	0.24%	1.29%
Austria	0.09	0.83	0.32	1.24
Belgium	0.14	2.25	1.84	4.23
Canada	0.27	1.58	0.24	2.09
Denmark	0.53	3.24	1.94	5.71
Finland	0.26	0.66	1.34	2.26
France	0.32	1.34	1.21	2.87
Germany	0.30	1.30	0.72	2.32
Italy	0.03	0.40	1.09	1.52
Japan	0.03	0.36	0.13	0.52
Netherlands	0.21	2.64	0.92	3.77
New Zealand	0.45	1.06	0.20	1.71
Norway	0.29	1.05	0.62	1.96
Sweden	0.52	0.60	1.26	2.38
Switzerland	0.01	0.19	0.16	0.36
United Kingdom	0.25	0.94	0.43	1.62
United States	0.10	0.38	0.14	0.62

Source: Adapted from OECD (1990, pp. 52–53).

an important role in improving labour market outcomes will appear in a less favourable light in the present data set than is actually the case. This, for instance, may well hold for countries like Japan and the United States.

Another important general consideration is that budget figures reported here measure only the ex-post amount of public resources spent on the various programmes. Thus, they do not permit a judgement as to whether the programmes themselves are effective, nor whether they are sufficient in relation to needs. If a country spends little on such programmes, this could mean either that the country has no major labour market problems to worry about; or that it gives low priority to solving these problems, or that it does not consider the available policy instruments as appropriate and effective. Conversely, high spending may reflect simply a sizeable and protracted unemployment problem — the effort could still be insufficient, ineffective or both.

In spite of these methodological difficulties, comprehensive budget data can be a useful, even if limited, guide for understanding a government's approach to labour market policy. If outlays on all the major types of labour market programmes are included, it is possible to obtain a broad picture of the priorities given by a country within the menu of available policy options. The most straightforward interpretation of the data may be to consider the relative weight countries place,

Table 23

Government Sponsored Training Programs for Unemployed
Adults and Those at Risk in the
Major Industrialized Countries, 1988

Country	Participation as Percent of Labor Force	Average Duration (months)	Expenditures	
			Per Starting Participant (U.S. $)	As Percent of Average Income
Australia	0.4%	3	$1,500	10%
Austria	0.9	3	2,700	16
Belgium	1.6	na	3,000	19
Canada	1.1	6	7,000	37
Denmark	1.4	7	6,500	31
Finland	1.2	6	8,800	42
France	2.3	2.5	4,600	27
Germany	1.5	8	7,200	37
Netherlands	2.3	4	3,500	22
New Zealand	4.4	4	3,000	24
Norway	2.7	2.5	4,500	20
Sweden	1.7	5	12,000	60
Switzerland	0.3	na	2,800	10
United Kingdom	1.4	na	5,000	31
United States	1.0	3.5	1,800	9

Source: Adapted from OECD (1990, p 35).

> or have placed, on "passive" income maintenance (unemployment compensation and early retirement) as distinct from "active" measures to help the jobless find work. Among the active measures may be distinguished, as a sub-set, those which improve labour market efficiency. Employment services, labour market training, youth measures and recruitment subsidies are examples of programmes aiming to improve the efficiency of the labour market, and hence of the economy. For other types of measures commonly referred to as "active" — such as direct job creation outside the regular labour market and certain measures for the disabled — social objectives are generally the more important consideration."

Description of Major U.S. Programs Dealing with Worker Displacement

With the preceding discussion of overall labor-market policies in the United States and other major countries as background, it is appropriate now to review briefly the salient characteristics of the major U.S. programs that deal with worker displacement. These programs include:

1. Unemployment Insurance (UI)
2. Employment Service (ES)
3. Trade Adjustment Assistance (TAA)
4. Economic Dislocation and Worker Adjustment Assistance (EDWAA)

Unemployment Insurance (UI)

As noted by Rosen (1991, pp. 4-6), UI is the largest and most comprehensive of the existing programs. UI provides up to 26 weeks of benefits, equal to 35-40 percent of the previous wage, for unemployed workers covered by contributions to the UI trust fund. An additional 13 weeks of benefits may be authorized if warranted by economic conditions. It is expected that workers receiving benefits should actively be seeking employment.

UI is intended mainly to deal with income losses during unemployment. It provides only a limited amount of job search assistance. No provision is made for training. Since UI is designed for short-term income maintenance in relation to previous wages, it does not take into account the characteristics and situations of individual workers who are seeking new employment.

Employment Service (ES)

According to Jones (1991, p. 4), the Employment Service (ES) provides information, counseling, job development, and job placement services for individuals seeking employment. It is especially useful for workers who can be readily employed.[39]

Trade Adjustment Assistance (TAA)

Golding (1991, pp. 1-3), notes that TAA is intended to assist workers who are adversely impacted by imports. There is a two-step process for establishing eligibility: (1) Department of Labor certification that involves submission of a petition, an investigation into the role that increased imports have played in reducing a firm's sales and production and thus worker layoffs, and determining whether the group of workers involved is deemed eligible to apply for TAA; and (2) following certification, individual workers are required to apply for and be found eligible under specified criteria for the monetary benefits involved in the TAA program.

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[39] See National Commission for Employment Policy (1991a,b,c) for an analysis of the issues involved in assessing and improving the effectiveness of the Employment Service.

The TAA program is distinctive in being an entitlement program. The eligibility requirements for trade readjustment allowances (TRA) include total separation from employment and participation in an approved training program. An eligible worker can receive basic TRA for up to 26 weeks after exhaustion of available UI benefits. Further, an additional 26 weeks of TRA may be available to workers in approved training programs. The combined UI and TRA benefits may thus add up to a maximum of 78 weeks of benefits. The TAA program also covers allowances for job search, relocation, training-related travel, and subsistence.

The Employment and Training Administration (ETA) of the U.S. Department of Labor administers the TAA program by means of cooperative agreements with individual States. These cooperative agreements with the States require the coordination of the training and other services provided under TAA and the Economic Dislocation and Worker Adjustment Assistance (EDWAA) program.

Economic Dislocation and Worker Adjustment Assistance (EDWAA)

As Golding (1991, pp. 3-6) states, EDWAA was introduced in 1988 in an effort to serve the needs of dislocated workers more effectively than previous programs had done. EDWAA has been operating since July 1989. It is designed as a State grant program with local service delivery. It is not an entitlement program. Eighty percent of EDWAA funds are distributed to the States according to formula. A minimum of 60 percent of the funds is to be distributed locally and up to 40 percent can be retained for State activities. All administrative and funding decisions are decentralized to the States as a means of tailoring the assistance most effectively to the needs of local areas. The ETA reserves the remaining 20 percent of EDWAA funds for special grants to States in which major job displacements have occurred. The criteria for EDWAA eligibility are very broad and thus cover workers who are displaced in a variety of circumstances. It is not necessary for eligibility to determine the cause of the dislocation.

The major services and activities of EDWAA include:

(1) on-site rapid response in cases of plant closings and mass layoffs, with specially trained teams that can provide early intervention;

(2) provision of basic readjustment services, including job counseling and development, job search and placement assistance, and a variety of other support and information services;

(3) establishment of labor-management committees to plan and administer adjustment assistance on a community-wide basis;

(4) provision of a variety of retraining services; and

(5) authorization of needs-related payments for workers who are participating in an approved retraining or education program and have exhausted their UI eligibility.

Current Status and Effectiveness of TAA and EDWAA[40]

Golding (1991, p. 3) notes that the TAA program served 42,000 workers in Fiscal Year (FY) 1989 and 38,500 in FY 1990. In FY 1990, nearly 25 percent of workers eligible for and requesting TAA services were also participating in a JTPA Title III program. In the two years following its inception in July 1989, the EDWAA program served about 500,000 workers, and Golding (p. 6) states that the three-year total is expected to reach between 750,000 and 800,000 workers. Further, there are significant differences in the job placement rates of the two programs, with EDWAA job placement rates being 69 percent in Program Year (PY) 1988 and 66 percent in PY 1989. This compares to a TAA job placement rate of 30 percent in FY 1989 and 32 percent in FY 1990.

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[40] The role of the Employment Service in serving dislocated workers under EDWAA is investigated in National Commission for Employment Policy (1991a,b,c).

In her capacity as Deputy Assistant Secretary of ETA, Golding concludes (pp. 6–7) that:

> "...the EDWAA program combined with the unemployment system, is the best means for responding to the retraining and related needs of dislocated workers, regardless of the cause of their dislocation. EDWAA is based on experience with earlier dislocated worker programs and studies (including a major study by the Office of Technology Assessment) that indicate that to be successful, worker adjustment programs should emphasize early intervention, build on labor-management cooperation, and provide a full range of services.
>
> EDWAA seeks to provide services to dislocated workers before or soon after they lose their jobs so they can return to productive employment. Those dislocated workers who do not qualify for or have ceased to qualify for unemployment compensation are eligible to receive needs-related payments if they are enrolled in training by the end of the 13th week of the worker's initial unemployment compensation benefit period. More than 60 percent of EDWAA participants receive training ranging in length from a few weeks to several months; others receive basic readjustment services and job referral. The average length of participation in EDWAA is 19 weeks, but 10 percent of all EDWAA participants receive training lasting 26 weeks or more. In contrast, the TAA certification requirement may delay services for 60 days and often much longer after layoffs begin.
>
> The early intervention and broad range of basic adjustment services EDWAA can quickly deliver are essential to effective adjustment. In addition, EDWAA provides an incentive for workers to begin retraining early in their spell of unemployment by requiring that a participant be enrolled in training by the 13th week of their UI benefit period (or eight weeks after being informed that the layoff will extend beyond six months) to qualify for the needs-related payments. It is well documented that the earlier the readjustment process begins, the more effective the adjustment will be. If a worker waits too long to begin retraining, job search, or relocation to a new job market, he or she may become discouraged, or even drop out of the labor market, and the adjustment process thus becomes more difficult. EDWAA's emphasis is on positive and early adjustment rather than prolonged income support followed by training."

It is evident from the foregoing statement that official policy favors EDWAA over TAA as the approach to be followed in dealing with unemployment. Indeed, as Golding (1991, p. 3) notes, the Bush Administration recommended that TAA be terminated effective October 1, 1991, with a phaseout period for workers receiving TAA benefits. Thereafter, trade-impacted unemployed workers would be eligible for services provided in the EDWAA program.

Needless to say, the official view of the Bush Administration favoring EDWAA is not shared by all. In particular, state administrators of labor adjustment programs and labor union representatives especially have argued that EDWAA is seriously underfunded and has been made available to only a comparatively small fraction of the total number of workers who are displaced each year. Further, a series of case studies in 15 states and 30 substate areas during the 1989 program year by SRI International (1992) called attention to a number of problems encountered in EDWAA's first year of operation. These problems included weak links between rapid response and implementation of early intervention services and lack of clarity in state policies in establishing priorities among eligible populations.[41]

XIII. Policy Options for Adjustment Assistance Programs

In light of the experience with various labor market adjustment programs just described, it has been urged that TAA be continued and strengthened as a separate program in its own right and/or in conjunction with EDWAA. However, there are a number of problems with the current TAA program, relating to the time involved in the certification process, the rather strict criteria for determining TAA eligibility for trade impacted workers, inadequate financing, too short benefit period, the lack of appropriate benefits to cover medical insurance and meeting the financial needs especially of workers approaching retirement, and the difficulties of targeting job creation. By the same token, the proponents of TAA emphasize the importance of the entitlements for income support and retraining.[42]

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[41] There is reason to believe, however, that many of these start-up problems have since been overcome. See National Commission for Employment Policy (1991a,c).

[42] See the statements of the various panelists in the U.S. House of Representatives, Committee on Ways and Means (1991) and the U.S. Senate, Committee on Finance (1991). See also Bednarzik (1991, pp. 6–8) for a succinct summary of the issues raised in hearings. There are several earlier studies dealing with TAA, including Aho and Bayard (1984), Bednarzik and Orr (1984), Corson et al. (1979), Office of Technology Assessment (1987), and Richardson (1982).

The question thus arises as to whether EDWAA and TAA should be merged into a single program or kept separate. The choice involves issues of cost effectiveness in the administration of unemployment policies and programs at the federal, state, and local levels as well as political perceptions and priorities in how best to address unemployment.

On economic grounds, it can be argued that the funding and administration of programs to assist displaced workers should be concentrated in a single program. As discussed above, EDWAA has been designed to offer a flexible array of financial support and adjustment services that may be tailored by individual States and localities to address all varieties of dislocations and the special needs of individual workers. EDWAA is available to all workers, regardless of the factors responsible for their dislocation. In contrast, TAA is predicated on the need to distinguish the trade impacts on workers from the many other possible sources of dislocation that occur in a large and complex economy like the United States. The experience with TAA suggests that the filing, investigation, and certification of claims of worker displacement due ostensibly to trade can be time consuming and costly. It is difficult therefore to make a compelling case for TAA as a separate program.

However, the question of whether or not TAA can be subsumed under EDWAA raises some important political considerations that must also be addressed. As noted above, EDWAA has been criticized by representatives of organized labor especially for being underfunded and for covering only a limited fraction of the total number of U.S. workers who are displaced each year. In contrast, TAA is perceived by labor interests and some influential members of the U.S. Congress as having definite advantages especially because of its entitlement and related features. In the course of the Congressional hearings held in the spring of 1991 with regard to granting the President fast-track authority to enter into the negotiation of a NAFTA, it was evident that there was a strong undercurrent of opposition to the fast track because of fears that a NAFTA would be detrimental to U.S. employment. While the results of the present study indicate that these fears may not be justified, it may nonetheless be important on political grounds to respond to them.[43]

This suggests accordingly that it may not be judicious politically to advocate the total abandonment of TAA. In these circumstances, we recommend that the best features of EDWAA and TAA be combined. In this connection, as Bednarzik (1991, p. 3) notes, from EDWAA this would include: availability of assistance to displaced workers regardless of the factors resulting in their displacement; rapid response teams; ability to start assistance before displacement occurs; joint labor-management committees and local community involvement in helping to reemploy workers; and systematic tracking of program outcomes. From TAA, this would include: entitlement to income support; entitlement to training; and the ability to carry over funds on a three-year cycle. Job search and relocation assistance would also be provided.

There appears to be a consensus among those involved in the administration and analysis of the existing adjustment assistance programs that providing assistance for job search is the most cost-effective way of accomplishing the reemployment of displaced workers. Yet assistance for worker training has a great deal of appeal, and there may in fact be cases in which workers could benefit from special, longer term support for training in basic skills and in the acquisition of new skills. The question then would be to change the TAA program in ways that would speed up the certification procedure and broaden the eligibility criteria, emphasize the process of job search, and provide incentives for rapid reemployment. At the same time, the longer-term training features of the TAA program could be maintained and improved for those trade-impacted workers in need of longer-term assistance.[44]

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[43] A discussion of the political rationale for a program of TAA is to be found especially in Aho and Bayard (1984) and Richardson (1982).

[44] Rosen (1991) also contains some recommendations for improving the TAA program.

The results presented in the foregoing tables in the text and in the more detailed tables in the Statistical Appendix provide a useful starting point in identifying the sectors/ occupations/regions/states that may be most vulnerable to a NAFTA. Once the exact details of a NAFTA become known and the agreement becomes operative, it will then be necessary to monitor the actual adjustments that take place and to target the TAA towards those individuals in greatest need of income support and retraining.

The question then to be considered is the adequacy of the existing adjustment assistance programs and funding in coping with the worker dislocation that might be experienced as a consequence of a NAFTA.

In Section X, an upper bound for lost wages due to a NAFTA (scenario D.) was an estimated $40 million annually for a period of ten years, although this estimate did not take into account the possible additional dislocations that might occur due to cross-border migration. The results in Section XI of a NAFTA accompanied by various assumptions about migration led to an approximate doubling of the upper bound estimate of lost wages (scenario H.). If adjustment assistance were to made available for complete coverage of lost wages in connection with a NAFTA, the amount required is estimated to be between $40 and $80 million annually for a period of ten years.

The amounts just noted assume that displaced workers would be compensated fully for lost wages due to a NAFTA. This may not be realistic, however, since the existing programs for income support of displaced workers set the proportion of coverage of lost wages at a much lower level, typically 40 percent or less of the pre-displacement wage. Thus, for example, Friedman (1991) notes that in 1990 the average unemployment insurance benefit was 37 percent of the average wage in covered employment. Trade readjustment allowances, which can be received when the unemployment benefits are exhausted, are set at this same level. If the 37 percent is applied to the lower and upper bounds of the wage losses associated with a NAFTA, the amount of assistance required would then be $15 and $30 million annually for a period of ten years.[45]

The question now is how the foregoing calculations relate to the current levels of worker displacement and assistance provided under TAA and EDWAA. According to Bednarzik (1991) and Jones (1991), in fiscal 1990, 38,500 workers were declared eligible for TAA and 250,000 workers qualified for assistance under EDWAA. Assuming that the fiscal 1990 displacement experiences would be characteristic of what might occur under a NAFTA, this suggests that 13.34 percent (i.e., 38,500/285,500 × 100) of the workers displaced would qualify for TAA and 86.66 percent (250,000/285,500 × 100) would qualify for EDWAA.

While it might be thought that the percentage of workers qualifying for TAA due to a NAFTA would be higher than 13.3 percent, it should be pointed out that TAA eligibility depends on demonstration of trade-related injury while EDWAA eligibility covers all types of displacement regardless of cause. Because our NAFTA CGE model takes into account a variety of interactions among the various sectors of the U.S. economy, including both sectors that are engaged in trade as well as the so-called nontradable (service) sectors, the calculations of worker displacement presented are capturing both the direct and indirect employment effects of a NAFTA. Workers who are displaced due to such indirect effects would be difficult to identify and therefore would be unlikely to be certified for TAA. It seems reasonable to assume therefore that the percentages of TAA and EDWAA eligible workers noted can be applied to the NAFTA-related worker displacement effects that have been calculated.

Farnsworth (1991) has reported, based on Department of Labor sources, that in fiscal 1990 the TAA payments for income support plus training averaged $7,000 per eligible worker, and expenditures for the various services provided under EDWAA averaged $1,200 per eligible worker. Applying the 13.34 and 86.66 percentages for the proportions of workers receiving TAA and EDWAA assistance respectively in fiscal 1990, the expected TAA payment is $933.80 (i.e., 13.34% x $7.000) and the expected EDWAA expenditure is $1,039.92 (i.e., 86.66% × $1,200) per eligible worker. The total expected TAA and EDWAA payment is then $1,973.72 per eligible worker.

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[45] Friedman also notes that, between 1974 and 1981, the payments made to trade-displaced workers were to be equivalent to 70 percent of prior pay. If this 70 percent level were chosen, as Friedman recommends, the amounts of assistance would then be between $28 and $56 million annually for a period of ten years.

According to scenario D. in Table 12, 76,623 workers would be displaced across sectors as the result of the removal of tariffs coupled with an increase of FDI in Mexico. Multiplying the number of displaced workers by the combined TAA and EDWAA payment per eligible worker gives a total of $151 million as the amount of assistance required over ten years, or about $15 million per year. For scenario H. in Table 18, which takes into account cross-border migration, there would be a total of 195,210 workers displaced. The amount of assistance needed in this case would then be $385 million over ten years, or $38.5 million per year. These amounts correspond reasonably closely with the calculations based on the 37 percent wage coverage noted above.

How do the foregoing amounts compare to what is actually being spent annually for the various assistance programs in effect?

According to the data in Table 20, in fiscal year 1992, JTPA grants to states were $2.8 billion, with $577 million earmarked for EDWAA. TAA benefits and training authorizations were $226 million. The budgeted authorization for fiscal year 1993 is $577 million for EDWAA and $211 million for TAA benefits and training. Assuming that an additional budget authorization of $38.5 million annually for a period up to ten years were earmarked explicitly to help mitigate wage losses that might arise from a NAFTA, this would appear to be quite manageable in relation to the existing budget magnitudes for EDWAA and other JTPA programs, TAA benefits and training, and unemployment compensation and employment services.

The other calculations of wage losses across occupations, regions, and states in Tables 17 and 19 appear to be significantly smaller than the wage losses across sectors. Workers who might have to change occupation and/or move from one region/state to another, could potentially experience significant adjustment costs. Yet, on an annual basis, the calculations here suggest that these total wage losses could range between about $1.5 and $20 million annually. Again, these amounts appear to be quite small compared to the recent and prospective budget authorizations for the various federally funded labor market programs.

The question arises whether any special procedures for allocating adjustment assistance should be implemented for the special purpose of dealing with the effects of a NAFTA. It might be suggested, for example, that special provisions be made for those regions of the U.S. economy that are expected to be hardest hit. In view of the relatively small size of the adjustments that this study has identified as resulting from a NAFTA, however, it does not appear that such special provisions would be needed or appropriate. The existing programs do have deficiencies that need to be corrected in any case, as has been discussed above. But they do not need to be reconstructed specially to deal with a NAFTA.

On the contrary, targetting extra adjustment assistance for particular regions in anticipation of the hardships that they may endure prospectively is a questionable practice in any case, even assuming that the identities of those regions could be accurately identified through studies such as the present one. Allowing such targetting opens up the incentive for regions to waste resources lobbying to get that special treatment. In addition, while the effects of a NAFTA will indeed be more severe in some regions than in others, those individuals who are affected even in regions that are otherwise not hard hit deserve the same access to adjustment assistance programs as those elsewhere.

XIV. Summary of Results and Policy Options

An effort has been made in this study to provide a quantitative assessment of the economic effects of a NAFTA. While the various scenarios analyzed are not exhaustive of all the possible changes that may be negotiated in connection with a NAFTA, they are nonetheless indicative of the orders of magnitude on trade, output, number of firms, factor returns, and employment that could result from trilateral trade liberalization, increased investment in Mexico, and cross-border migration between Mexico and the United States.

Overall, the results of the study suggest that the formation of a NAFTA will have positive benefits for the United States, Canada, and Mexico on several counts, as follows:[46]

(1) The individual countries all experience an increase in aggregate welfare.

(2) The wage gap between the United States and Mexico will narrow, thereby reducing the incentive for illegal immigration. However, the real wage in the United States still rises as a result of trade liberalization.

(3) A NAFTA will have beneficial effects through the realization of economies of large scale production in all three countries.

(4) A reduction in barriers against foreign direct investment in Mexico will stimulate new capital formation, which has the beneficial effect of alleviating poverty in Mexico.

(5) The inflow of capital into Mexico may come primarily from outside the NAFTA, not from the United States, suggesting that the fear that U.S. firms will relocate production in Mexico may be largely unfounded.

(6) While there are negative effects on the rest of the world, they appear to be relatively small.

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[46] These results are in broad agreement with the results found in a number of other modeling studies of a NAFTA. For detailed comparisons, see Brown (1992) and USITC (1992).

(7) There appears to be relatively little displacement of workers especially in the United States, so that the associated adjustment costs due to a NAFTA will likely be small. This is the case even when allowance is made for cross-border migration between Mexico and the United States.

All of these are effects only of a NAFTA itself, relative to what would happen otherwise and for other reasons. They do not include, in particular, any of the effects of the growth of trade between the U.S. and Mexico that is already occurring without a NAFTA and that may continue to increase independently of whether a NAFTA is enacted.

The conclusion that a NAFTA is expected to result in a relatively small amount of worker displacement in the United States overall suggests that there will be comparably small displacement effects when measured across sectors, occupations, and regions/states. The calculated wage losses due to a NAFTA also appear to be fairly small. An upper limit may be $40—$80 million and a lower limit may be $2.5-20 million annually for a period up to a decade during which the full transition to a NAFTA could be expected. The amount of additional funding that might be required to help offset these wage losses would constitute a small fraction of what is currently being spent in the United States for existing federally funded labor market programs.

Currently, EDWAA is the major U.S. labor market program designed specifically to assist displaced workers. It offers a flexible array of financial support and adjustment services at the State and local levels. TAA, which is a separate but much smaller program compared to EDWAA, is based on the premise that a distinct program is needed to assist workers who are displaced by trade. TAA offers income support and retraining opportunities.

In implementing TAA, it has been necessary to develop special criteria that distinguish trade from other causes of displacement. This creates difficulties, however, because in an economy as large and complex as the United States, the effects of trade cannot be readily distinguished from other factors that lead to worker displacement. A case can be made therefore that the United States should abandon TAA and instead concentrate all forms of assistance in EDWAA. However, while such a change may be justified on economic grounds, it may not be politically expedient. The fact is that TAA currently has considerable support in the Congress and with organized labor precisely because of the income support features that provide greater certainty of assistance to trade impacted workers. In this light therefore, it seems preferable to combine the best features of EDWAA and TAA.

In assessing the present study, it must be borne in mind that the results are based on an economic model that has been designed to reflect the economic structure and relations within and between the individual NAFTA nations. Any model like the NAFTA CGE model is of necessity an abstraction that leaves out many important details of economic life. The modeling framework used in this study has a number of limitations, suggesting that further research would be useful. The directions for additional research include especially the need to make allowance for relative wage adjustment in labor markets and to clarify the determinants and consequences of foreign direct investment and cross-border migration.

On the basis of the foregoing conclusions, we offer the following policy options:

(1) An appropriation of \$15–\$38.5 million annually be made by the U.S. Congress for a period of ten years for the purpose of providing income support and retraining opportunities for U.S. workers who may be displaced by a NAFTA. Based on our calculations, this amount should be sufficient to cover wages and additional training costs for dislocated workers at a level of 40 percent of the pre-displacement wage, which corresponds to the percentage wage coverage for displaced workers in 1990.

(2) In view of the relatively small size of the adjustments that may result from a NAFTA, the existing arrangements for TAA do not need to be reconstructed or targetted to particular sectors, occupations, or regions.

(3) Workers displaced by a NAFTA should follow existing certification procedures in order to be eligible for TAA benefits. Because of the difficulty that may be experienced in demonstrating that displacement may be due solely to a NAFTA, the eligibility for TAA should be broadly construed. This will serve to obviate the need to identify a NAFTA as the sole or single most important cause of worker displacement.

(4) The income supports aspects of TAA should be maintained in order to assure workers of a well-defined safety net in the event that they experience displacement due to a NAFTA. Efforts have been made in individual States and localities to improve the rapid response team coordination of TAA and EDWAA. This progress should be continued. In particular, it is imperative to provide displaced workers with pertinent information and effective assistance for job search and relocation and to expedite the availability of retraining in cases where it may be needed.

(5) Further economic analysis of the effects of a NAFTA is warranted. It is especially important to devise more effective analysis of the relative wage adjustments that may occur for workers in particular sectors, occupations, and geographic locations than has been feasible in the present study. Also, more attention should be given to analysis of the determinants and consequences of a NAFTA with regard to changes in foreign direct investment and cross-border migration.

XV. Implications for Further Research

The research undertaken in this study is by no means the last word on the subject of the employment and related effects of a NAFTA. In particular, there are a number of directions in which the research might be extended.

One possibility would be to incorporate a certain amount of relative wage adjustment into the analysis. As explained earlier, this would require either information about, or assumptions regarding, a variety of substitution elasticities affecting labor supplies and demands. It may be that more information is available on these substitution elasticities than the present authors are aware of, and if so this information could be incorporated into an extension of the basic model. Alternatively various elasticities could simply be assumed in order to determine what they imply in a variety of scenarios. In either case it would be necessary to modify the current NAFTA model to allow these elasticities to play their appropriate roles. As currently constructed, the only alternative to fixed relative wages is to assume that relative wages adjust totally to accommodate fixed quantities. However, experiments that have been carried out along these lines suggest that this assumption leads to implausible results. Therefore an expansion of the model to include these effects would definitely be necessary.

Another aspect of the analysis that could be improved would be the modeling of labor migration and foreign direct investment. In the scenarios reported here, a given amount and direction of these international factor movements were assumed. While it is not at all clear what the appropriate strategy for modeling these as endogenous factor flows may be, it would nonetheless be desirable to explore the implications of several alternatives. Most extreme, of course, would be that labor and/or capital move internationally to equalize their returns. This, of course, is likely to be excessive. Alternatively, mechanisms of partial factor mobility might be developed. One mechanism would be that a certain differential or ratio of returns needs to be exceeded before any international factor flow takes place at all. Or, as another possibility, factor flows could be modeled as an increasing function of the international differential in returns. Both of these assumptions would, again, require additions to the current model in order to implement them, but those additions should be relatively straightforward.

A final extension would be to bring in other determinants of international direct investment and/or migration than relative international factor returns. An important example of this would involve environmental considerations. It is possible that capital will flow more readily in some industries than in others in response, say, to the advantages provided by ostensibly lax enforcement of environmental regulations in Mexico. Starting with data on the vulnerability of various industries to such regulations — which would have to be collected — international direct investment could be modeled on an industry basis in the hope of capturing the movement of various environmentally sensitive industries from the United States into Mexico. This might considerably alter the sectoral patterns of worker displacements that have been calculated in the present study.

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Statistical Appendix

TABLE A-1
NAFTA BILATERAL TARIFF RATES

ISIC SECTOR	UNITED STATES		CANADA		MEXICO	
	TARIFF ON IMPORTS FROM CANADA	TARIFF ON IMPORTS FROM MEXICO	TARIFF ON IMPORTS FROM U.S.	TARIFF ON IMPORTS FROM MEXICO	TARIFF ON IMPORTS FROM U.S.	TARIFF ON IMPORTS FROM CANADA
Tradables						
1 Agric., For., & Fish.	1.6	4.0	2.2	1.8	2.0	1.1
2 Mining & Quarrying	0.0	0.1	0.4	0.0	3.7	3.6
310 Food, Bev., & Tob.	3.8	2.6	5.4	5.4	9.3	1.6
321 Textiles	7.2	2.8	16.9	9.1	11.6	11.7
322 Wearing Apparel	18.4	6.2	23.7	19.8	19.8	19.4
323 Leather Products	2.5	4.8	4.8	4.0	12.3	8.8
324 Footwear	9.0	3.5	21.5	22.5	19.7	19.3
331 Wood Products	0.2	1.3	2.5	8.3	13.6	15.0
332 Furniture, Fixtures	4.6	1.4	14.3	13.6	14.7	14.2
341 Paper and Paper Products	0.0	2.5	6.6	9.9	3.0	2.9
342 Printing & Publishing	0.3	0.2	1.1	3.9	8.2	6.3
35A Chemicals	0.6	1.2	7.9	8.4	7.1	9.8
35B Petrol. & Rel. Prod.	0.0	0.1	0.4	0.0	3.4	13.0
355 Rubber Products	3.2	0.1	7.3	0.0	12.3	9.0
36A Nonmetal Min. Prod.	0.3	1.0	4.4	1.8	14.6	14.7
362 Glass & Glass Prod.	5.7	5.9	6.9	4.2	15.1	19.7
371 Iron & Steel	2.7	1.6	5.1	0.0	7.5	3.8
372 Nonferrous Metals	0.5	1.6	3.3	0.0	7.9	4.2
381 Metal Products	4.0	2.2	8.6	10.1	9.6	8.3
382 Nonelec. Machinery	2.2	0.9	4.6	1.4	12.7	12.1
383 Electrical Machinery	4.5	2.3	7.5	4.9	14.2	13.9
384 Transport Equipment	0.0	1.4	0.0	0.9	13.7	11.0
38A Misc. Manuf.	0.9	1.2	5.0	8.3	14.0	11.9
Nontradables						
4 Elec., Gas, & Water						
5 Construction						
6 Whole. & Ret. Trade						
7 Trans., Stor. & Comm.						
8 Fin., Ins., & Rel. Est.						
9 Comm., Soc., & Pers. Serv.						

Note: U.S. and Canadian tariffs refer to post-Tokyo Round (1987) tariffs weighted by bilateral imports at the line item level. The U.S. tariffs have been adjusted to take duty-free maquiladora imports into account. Mexican tariff rates refer to 1989 and are also weighted by bilateral imports.

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TABLE A-2
SECTORAL EFFECTS ON THE UNITED STATES OF NORTH AMERICAN FREE TRADE TARIFFS PLUS 25% EXPANSION OF U.S. IMPORT QUOTA LIMITS APPLIED TO MEXICAN EXPORTS
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	0.05	2.13	4.13	11.84	-0.06	0.00
2 Mining, Quarrying	-0.31	0.74	1.29	4.16	-0.32	-0.36
310 Food	1.82	1.76	9.93	13.12	0.09	-0.04
321 Textiles	7.54	0.40	17.00	15.34	1.01	0.58
322 Clothing	9.81	1.56	47.53	24.94	0.58	0.10
323 Leather Products	1.05	2.11	12.49	16.19	-0.04	-0.24
324 Footwear	11.03	2.66	29.76	12.09	0.18	-0.06
331 Wood Products	1.91	0.83	1.08	2.05	0.15	0.02
332 Furniture, Fixtures	9.61	4.01	13.71	10.41	0.29	0.10
341 Paper Products	2.43	-0.54	-0.74	6.69	0.32	0.16
342 Printing, Publishing	1.80	0.25	-0.43	-0.37	0.11	0.01
35A Chemicals	3.57	-0.47	-2.02	1.02	0.59	0.42
35B Petroleum Products	-0.23	0.86	1.58	3.45	-0.01	-0.04
355 Rubber Products	5.87	0.77	11.13	-6.77	0.46	0.24
36A Nonmetal Min. Prod.	4.72	0.81	2.14	1.88	0.13	0.06
362 Glass Products	3.78	11.97	35.10	14.16	-1.20	-1.34
371 Iron, Steel	5.88	1.97	13.07	-1.84	0.08	-0.02
372 Nonferrous Metals	-2.30	7.74	18.95	31.33	-1.67	-1.58
381 Metal Products	5.47	3.36	15.68	4.14	0.15	0.07
382 Nonelec. Machinery	3.60	0.54	4.56	-20.11	0.57	0.44
383 Electrical Machinery	2.18	6.67	15.29	62.13	-0.45	-0.53
384 Transport Equipment	-1.51	3.87	13.33	-6.00	-0.69	-0.80
38A Misc. Mfrs.	3.84	-0.17	-1.00	1.32	0.71	0.60
Nontradables						
4 Utilities					0.00	0.00
5 Construction					0.03	0.00
6 Wholesale Trade					0.00	0.00
7 Transportation					0.01	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.01	0.00
Total	2.11	1.89	6.90	13.96	0.02	-0.00

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TABLE A-3
SECTORAL EFFECTS ON CANADA OF NORTH AMERICAN FREE TRADE TARIFFS PLUS 25% EXPANSION OF U.S. IMPORT QUOTA LIMITS APPLIED TO MEXICAN EXPORTS
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	0.30	3.42	4.89	4.93	-0.14	0.00
2 Mining, Quarrying	0.97	0.84	1.04	4.05	1.29	0.82
310 Food	4.92	4.80	12.48	16.38	0.35	-0.29
321 Textiles	7.05	20.18	43.22	24.60	-2.76	-3.77
322 Clothing	31.88	10.84	56.06	25.55	1.16	0.13
323 Leather Products	9.05	0.78	7.28	41.63	4.54	3.52
324 Footwear	27.38	7.30	45.06	47.17	3.42	1.85
331 Wood Products	0.81	4.56	6.48	20.40	0.36	-0.39
332 Furniture, Fixtures	12.06	20.70	35.34	40.10	-0.02	-1.14
341 Paper Products	-0.79	12.48	18.70	26.31	-0.81	-1.38
342 Printing, Publishing	-0.56	3.02	3.68	10.60	-0.90	-1.11
35A Chemicals	-2.22	13.01	21.51	20.11	-3.83	-4.50
35B Petroleum Products	1.42	0.36	0.70	2.65	1.16	0.34
355 Rubber Products	9.39	7.31	18.40	-9.11	2.13	1.24
36A Nonmetal Min. Prod.	2.11	4.52	11.71	3.39	0.64	-0.21
362 Glass Products	31.75	0.75	3.38	-2.85	18.72	17.15
371 Iron, Steel	10.35	4.99	11.59	-7.80	5.12	3.35
372 Nonferrous Metals	15.31	-5.04	-3.04	15.26	12.71	9.62
381 Metal Products	12.35	11.57	18.51	20.32	1.34	-0.85
382 Nonelec. Machinery	3.14	7.15	9.83	-21.83	-2.43	-3.61
383 Electrical Machinery	11.26	9.63	16.08	67.05	0.52	-1.20
384 Transport Equipment	12.49	-5.26	-5.58	-11.80	9.77	7.25
38A Misc. Mfrs.	-1.33	7.24	11.49	17.93	-4.38	-5.56
Nontradables						
4 Utilities					0.10	0.00
5 Construction					0.30	0.00
6 Wholesale Trade					-0.02	0.00
7 Transportation					0.23	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.27	0.00
Total	4.83	4.30	7.74	11.98	0.52	0.02

TABLE A-4
SECTORAL EFFECTS ON MEXICO OF NORTH AMERICAN FREE TRADE TARIFFS PLUS 25% EXPANSION OF U.S. IMPORT QUOTA LIMITS APPLIED TO MEXICAN EXPORTS
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	7.58	2.72	2.89	1.50	0.50	0.00
2 Mining, Quarrying	3.80	2.67	4.08	4.62	3.30	2.47
310 Food	8.40	11.09	19.50	3.28	-0.02	-0.50
321 Textiles	6.96	20.74	30.92	27.73	0.67	0.05
322 Clothing	23.06	23.92	44.11	44.04	4.48	3.51
323 Leather Products	15.17	13.86	30.03	26.78	1.95	1.16
324 Footwear	12.07	36.85	47.40	51.76	1.07	0.14
331 Wood Products	1.94	28.33	35.44	39.38	-1.65	-2.02
332 Furniture, Fixtures	10.95	13.00	32.76	32.57	6.22	5.46
341 Paper Products	6.15	6.92	8.25	7.17	-0.84	-1.30
342 Printing, Publishing	-0.32	9.16	21.83	15.57	-1.61	-2.22
35A Chemicals	-0.71	12.78	18.55	21.28	-3.08	-3.90
35B Petroleum Products	3.00	1.60	2.16	12.27	0.71	-0.63
355 Rubber Products	-6.49	23.99	33.46	27.53	-6.52	-6.83
36A Nonmetal Min. Prod.	1.62	25.48	37.32	38.75	-1.43	-1.99
362 Glass Products	9.84	15.89	26.93	58.58	-1.95	-3.23
371 Iron, Steel	-2.58	10.84	20.72	17.17	-6.58	-6.89
372 Nonferrous Metals	27.26	-3.50	1.45	10.59	21.54	18.67
381 Metal Products	3.55	16.33	23.99	25.44	-2.98	-3.86
382 Nonelec. Machinery	-19.02	17.57	30.29	27.43	-23.94	-24.95
383 Electrical Machinery	60.74	-11.84	4.68	7.19	50.68	46.33
384 Transport Equipment	-6.30	17.18	21.53	26.09	-9.82	-9.68
38A Misc. Mfrs.	1.31	13.06	24.98	16.20	-3.17	-4.38
Nontradables						
4 Utilities					0.05	0.00
5 Construction					-0.23	0.00
6 Wholesale Trade					-0.37	0.00
7 Transportation					-0.37	0.00
8 Financial Services					-0.46	0.00
9 Personal Services					-0.46	0.00
Total	11.27	11.36	18.82	14.38	0.23	-1.68

TABLE A-5
SECTORAL EFFECTS ON THE UNITED STATES OF NORTH AMERICAN FREE TRADE TARIFFS PLUS 25% EXPANSION OF U.S. AND MEXICAN BILATERAL IMPORT QUOTA LIMITS
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	0.44	2.19	4.17	11.94	0.06	0.00
2 Mining, Quarrying	-0.39	0.82	1.32	5.54	-0.37	-0.40
310 Food	1.99	1.81	9.95	13.67	0.10	-0.03
321 Textiles	7.51	0.45	16.97	15.67	1.00	0.57
322 Clothing	9.78	1.60	47.53	24.95	0.57	0.09
323 Leather Products	0.99	2.18	12.57	16.84	-0.06	-0.27
324 Footwear	10.99	2.72	29.80	12.57	0.17	-0.07
331 Wood Products	1.84	0.90	1.13	3.05	0.13	0.00
332 Furniture, Fixtures	9.56	4.23	13.74	11.35	0.27	0.08
341 Paper Products	2.37	-0.44	-0.64	7.51	0.31	0.15
342 Printing, Publishing	1.75	0.33	-0.35	0.19	0.10	0.01
35A Chemicals	3.53	[illegible]	-1.91	2.21	0.58	0.41
35B Petroleum Products	-0.30	[illegible]	1.61	5.37	-0.02	-0.05
355 Rubber Products	5.83	[illegible]	11.12	-6.52	0.46	0.24
36A Nonmetal Min. Prod.	4.68	0.87	2.17	2.29	0.13	0.05
362 Glass Products	3.65	12.24	35.51	15.85	-1.27	-1.41
371 Iron, Steel	5.75	2.02	13.11	-0.64	0.08	-0.01
372 Nonferrous Metals	-2.59	8.14	19.16	37.66	-1.79	-1.68
381 Metal Products	5.43	3.43	15.72	5.29	0.15	0.07
382 Nonelec. Machinery	3.59	0.61	4.63	-18.99	0.56	0.44
383 Electrical Machinery	2.03	7.19	15.34	67.58	-0.52	-0.60
384 Transport Equipment	-0.86	3.69	12.91	-10.18	-0.57	-0.69
38A Misc. Mfrs.	3.72	0.06	-0.81	4.50	0.65	0.54
Nontradables						
4 Utilities					-0.00	0.00
5 Construction					0.03	0.00
6 Wholesale Trade					0.00	0.00
7 Transportation					0.01	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.01	0.00
Total	2.20	1.98	6.88	15.89	0.02	-0.00

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TABLE A-6
SECTORAL EFFECTS ON CANADA OF NORTH AMERICAN FREE TRADE
TARIFFS PLUS 25% EXPANSION OF U.S. AND MEXICAN
BILATERAL IMPORT QUOTA LIMITS
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	0.34	3.42	4.88	4.99	-0.12	0.00
2 Mining, Quarrying	0.99	0.82	0.96	5.41	1.30	0.82
310 Food	4.99	4.79	12.46	17.03	0.36	-0.29
321 Textiles	7.01	20.19	43.20	25.01	-2.80	-3.80
322 Clothing	31.86	10.86	56.04	25.55	1.14	0.12
323 Leather Products	9.11	0.75	7.20	42.22	4.58	3.55
324 Footwear	27.42	7.29	45.01	47.56	3.43	1.86
331 Wood Products	0.85	4.51	6.41	21.34	0.38	-0.37
332 Furniture, Fixtures	12.09	20.69	35.28	41.02	-0.02	-1.13
341 Paper Products	-0.71	12.40	18.60	27.06	-0.76	-1.34
342 Printing, Publishing	-0.50	2.97	3.62	11.13	-0.88	-1.10
35A Chemicals	-2.13	12.96	21.43	21.25	-3.78	-4.46
35B Petroleum Products	1.43	0.35	0.64	4.53	1.15	0.33
355 Rubber Products	9.36	7.29	18.36	-8.89	2.07	1.19
36A Nonmetal Min. Prod.	2.12	4.51	11.66	3.78	0.64	-0.21
362 Glass Products	32.13	0.62	3.23	-1.17	19.07	17.50
371 Iron, Steel	10.36	4.98	11.55	-6.70	5.13	3.36
372 Nonferrous Metals	15.44	-5.22	-3.27	21.40	12.83	9.73
381 Metal Products	12.38	11.54	18.47	21.43	1.34	-0.86
382 Nonelec. Machinery	3.19	7.11	9.78	-20.75	-2.40	-3.58
383 Electrical Machinery	11.29	9.59	15.97	72.59	0.53	-1.19
384 Transport Equipment	12.12	-5.07	-5.36	-15.57	9.47	7.00
38A Misc. Mfrs.	-1.17	7.16	11.37	21.15	-4.25	-5.43
Nontradables						
4 Utilities					0.10	0.00
5 Construction					0.30	0.00
6 Wholesale Trade					-0.02	0.00
7 Transportation					0.23	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.27	0.00
Total	4.84	4.30	7.73	13.00	0.52	0.02

TABLE A-7
SECTORAL EFFECTS ON MEXICO OF NORTH AMERICAN FREE TRADE TARIFFS PLUS 25% EXPANSION OF U.S. AND MEXICAN BILATERAL IMPORT QUOTA LIMITS
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	7.66	12.91	13.66	12.28	-0.42	0.00
2 Mining, Quarrying	5.14	2.59	4.01	4.58	4.61	3.49
310 Food	9.00	13.70	24.05	7.85	0.22	-0.67
321 Textiles	7.32	20.60	30.85	27.63	0.94	0.06
322 Clothing	23.09	23.85	44.01	43.95	4.64	3.49
323 Leather Products	15.80	13.49	29.62	26.46	2.25	1.23
324 Footwear	12.54	36.57	47.11	51.53	1.30	0.24
331 Wood Products	2.93	27.79	34.89	38.91	-1.11	-1.81
332 Furniture, Fixtures	11.89	12.54	32.26	32.12	6.95	5.95
341 Paper Products	6.93	6.67	8.01	7.03	-0.38	-1.15
342 Printing, Publishing	0.10	8.88	21.52	15.34	-1.30	-2.11
35A Chemicals	0.27	12.59	18.51	21.35	-2.39	-3.57
35B Petroleum Products	4.80	0.97	1.61	11.74	1.77	-0.14
355 Rubber Products	-6.25	23.70	33.16	27.21	-6.52	-7.03
36A Nonmetal Min. Prod.	2.01	25.34	37.16	38.63	-1.15	-1.91
362 Glass Products	11.35	15.60	26.61	58.72	-0.44	-1.92
371 Iron, Steel	-1.46	10.23	20.09	16.58	-5.86	-6.56
372 Nonferrous Metals	33.45	-7.07	-2.17	7.27	26.75	23.17
381 Metal Products	4.57	15.98	23.72	25.20	-2.31	-3.52
382 Nonelec. Machinery	-18.00	17.64	30.65	27.86	-23.15	-24.42
383 Electrical Machinery	66.10	-13.94	2.53	5.16	55.53	50.69
384 Transport Equipment	-9.70	25.09	31.52	35.80	-13.75	-13.56
38A Misc. Mfrs.	4.43	12.25	24.14	15.58	-0.21	-1.72
Nontradables						
4 Utilities					0.54	0.00
5 Construction					0.00	0.00
6 Wholesale Trade					-0.28	0.00
7 Transportation					-0.22	0.00
8 Financial Services					-0.37	0.00
9 Personal Services					-0.29	0.00
Total	13.12	13.14	21.67	16.87	0.48	-1.21

TABLE A-8

SECTORAL EFFECTS ON THE UNITED STATES OF NORTH AMERICAN FREE TRADE
TARIFFS ONLY PLUS 10% CAPITAL FLOW INTO MEXICO
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS		OUTPUT (6)	NO. FIRMS (7)
			U.S. (4)	CANADA (5)		
Tradables						
1 Agriculture	0.91	0.90	4.04	6.95	0.33	0.00
2 Mining, Quarrying	0.51	0.73	1.02	33.24	-0.46	-0.49
310 Food	2.70	0.37	9.65	4.32	0.20	0.08
321 Textiles	8.67	-1.30	16.10	5.39	1.37	0.85
322 Clothing	11.24	-0.73	46.80	0.34	0.99	0.39
323 Leather Products	2.33	0.87	11.96	16.64	0.42	0.17
324 Footwear	11.98	1.35	29.15	9.67	0.45	0.13
331 Wood Products	3.10	0.16	0.74	1.54	0.29	0.14
332 Furniture, Fixtures	10.41	3.52	13.27	12.30	0.34	0.12
341 Paper Products	3.16	-1.01	-1.23	19.14	0.40	0.21
342 Printing, Publishing	2.53	-0.19	-0.96	8.95	0.14	0.02
35A Chemicals	4.18	-1.12	-2.55	22.16	0.69	0.51
35B Petroleum Products	0.04	1.19	1.19	40.28	-0.02	-0.06
355 Rubber Products	6.92	-0.43	10.27	-0.39	0.78	0.53
36A Nonmetal Min. Prod.	5.35	0.28	1.85	9.12	0.15	0.08
362 Glass Products	5.14	10.63	30.81	33.01	-0.74	-0.90
371 Iron, Steel	3.57	1.34	13.66	38.09	0.00	-0.05
372 Nonferrous Metals	-6.05	14.66	22.67	167.84	-3.63	-3.30
381 Metal Products	5.32	3.30	16.02	33.36	0.10	0.09
382 Nonelec. Machinery	3.84	0.47	4.00	25.52	0.55	0.47
383 Electrical Machinery	1.46	12.52	15.27	140.48	-1.22	-1.25
384 Transport Equipment	-0.77	2.56	11.91	16.97	-0.45	-0.54
38A Misc. Mfrs.	4.27	0.92	-1.66	48.18	0.51	0.40
Nontradables						
4 Utilities					-0.02	0.00
5 Construction					0.02	0.00
6 Wholesale Trade					-0.00	0.00
7 Transportation					0.00	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.01	0.00
Total	2.49	2.05	6.53	46.30	0.01	-0.00

TABLE A-9
SECTORAL EFFECTS ON CANADA OF NORTH AMERICAN FREE TRADE
TARIFFS ONLY PLUS 10% CAPITAL FLOW INTO MEXICO
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	0.61	3.33	5.19	0.80	-0.01	0.00
2 Mining, Quarrying	1.17	0.58	1.20	33.70	1.43	0.95
310 Food	5.15	4.39	12.85	11.63	0.40	-0.24
321 Textiles	6.87	20.24	44.20	19.64	-2.96	-3.91
322 Clothing	31.61	10.43	57.15	0.96	1.12	0.15
323 Leather Products	9.12	0.60	8.14	42.59	4.56	3.55
324 Footwear	26.90	6.98	45.85	45.54	3.37	1.83
331 Wood Products	0.91	4.64	6.91	20.26	0.39	-0.37
332 Furniture, Fixtures	11.74	20.71	35.79	42.45	-0.06	-1.18
341 Paper Products	-0.86	12.59	19.18	39.32	-0.86	-1.44
342 Printing, Publishing	-0.93	3.22	4.11	20.70	-1.02	-1.22
35A Chemicals	-2.40	13.04	22.01	42.15	-3.93	-4.60
35B Petroleum Products	1.24	0.46	1.00	39.80	1.07	0.26
355 Rubber Products	8.79	7.30	19.24	-1.86	1.79	0.94
36A Nonmetal Min. Prod.	2.20	4.30	12.03	11.25	0.69	-0.18
362 Glass Products	27.86	1.81	4.64	18.06	15.18	13.67
371 Iron, Steel	10.69	4.64	11.75	30.02	5.80	3.90
372 Nonferrous Metals	18.58	-8.23	-6.47	148.68	15.61	12.19
381 Metal Products	12.84	11.08	18.27	49.40	1.53	-0.82
382 Nonelec. Machinery	2.79	7.47	10.02	24.28	-2.77	-3.97
383 Electrical Machinery	11.38	9.28	15.47	147.60	0.66	-1.08
384 Transport Equipment	11.20	-4.71	-4.72	10.44	8.84	6.43
38A Misc. Mfrs.	-1.68	7.27	11.70	67.05	-4.59	-5.76
Nontradables						
4 Utilities					0.10	0.00
5 Construction					0.31	0.00
6 Wholesale Trade					-0.02	0.00
7 Transportation					0.22	0.00
8 Financial Services					-0.02	0.00
9 Personal Services					-0.27	0.00
Total	4.89	4.34	8.07	29.02	0.52	0.01

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TABLE A-10
SECTORAL EFFECTS ON MEXICO OF NORTH AMERICAN FREE TRADE
TARIFFS ONLY PLUS 10% CAPITAL FLOW INTO MEXICO
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	3.43	6.57	6.65	5.08	1.99	0.00
2 Mining, Quarrying	32.57	1.57	3.60	4.11	31.95	24.90
310 Food	2.86	14.86	23.41	6.87	2.36	0.00
321 Textiles	4.12	23.09	33.86	29.49	3.76	-0.33
322 Clothing	0.43	32.70	53.61	52.43	2.13	-1.35
323 Leather Products	15.74	16.55	33.61	29.48	5.21	1.03
324 Footwear	9.77	42.55	53.44	56.95	3.96	-0.16
331 Wood Products	1.50	34.18	41.58	45.05	3.03	0.76
332 Furniture, Fixtures	12.84	17.70	38.15	37.49	10.62	7.23
341 Paper Products	18.23	3.98	5.55	3.94	9.09	2.73
342 Printing, Publishing	7.03	7.76	21.15	14.34	7.19	1.29
35A Chemicals	17.91	6.07	12.35	14.50	12.80	4.51
35B Petroleum Products	38.12	-8.89	-6.76	3.22	23.45	8.18
355 Rubber Products	-0.27	25.07	35.04	28.01	1.22	-3.25
36A Nonmetal Min. Prod.	8.71	23.99	36.26	37.40	5.12	0.32
362 Glass Products	27.09	18.64	30.23	57.40	18.46	12.74
371 Iron, Steel	35.26	-5.81	4.65	1.71	22.09	9.37
372 Nonferrous Metals	162.27	-78.00	-73.28	-58.66	135.81	117.04
381 Metal Products	29.43	5.57	13.62	15.46	17.13	6.57
382 Nonelec. Machinery	23.26	9.13	22.43	19.06	15.52	6.44
383 Electrical Machinery	137.92	-38.84	-22.12	-18.84	121.59	106.78
384 Transport Equipment	12.88	12.19	17.46	21.04	6.56	-1.57
38A Misc. Mfrs.	47.66	4.43	16.77	7.65	41.75	34.33
Nontradables						
4 Utilities					13.10	0.00
5 Construction					4.91	0.00
6 Wholesale Trade					4.26	0.00
7 Transportation					4.89	0.00
8 Financial Services					3.15	0.00
9 Personal Services					1.14	0.00
Total	44.77	3.41	12.10	7.00	9.75	9.59

TABLE A-11
SECTORAL EFFECTS ON THE UNITED STATES OF US-CANADA FTA, TARIFFS ONLY
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS		OUTPUT (6)	NO. FIRMS (7)
			U.S. (4)	CANADA (5)		
Tradables						
1 Agriculture	0.06	0.63	4.12	0.08	0.02	0.00
2 Mining, Quarrying	0.00	0.38	0.99	0.85	-0.17	-0.19
310 Food	1.07	1.09	9.89	-0.00	0.04	-0.03
321 Textiles	7.22	-0.26	17.07	-0.79	0.98	0.60
322 Clothing	8.13	0.43	47.55	-0.02	0.62	0.18
323 Leather Products	1.11	1.20	12.39	-0.35	0.11	-0.06
324 Footwear	10.56	1.87	29.69	-0.60	0.23	0.03
331 Wood Products	0.86	0.74	1.09	-0.15	0.05	-0.03
332 Furniture, Fixtures	9.28	1.55	13.65	-1.20	0.40	0.26
341 Paper Products	2.20	-0.82	-0.96	-0.32	0.29	0.17
342 Printing, Publishing	1.36	0.05	-0.61	-0.05	0.08	0.01
35A Chemicals	2.84	-0.64	-2.11	-0.55	0.49	0.36
35B Petroleum Products	-0.20	0.54	1.32	0.89	-0.01	-0.03
355 Rubber Products	3.84	0.89	11.36	-0.67	0.17	-0.00
36A Nonmetal Min. Prod.	2.70	0.52	1.87	0.17	0.06	0.01
362 Glass Products	0.76	12.82	39.09	-0.43	-2.01	-2.09
371 Iron, Steel	2.33	1.93	12.80	0.48	-0.16	-0.19
372 Nonferrous Metals	-1.76	5.80	17.52	2.88	-1.26	-1.18
381 Metal Products	4.28	3.14	15.44	0.17	0.04	0.02
382 Nonelec. Machinery	2.17	1.00	4.67	-0.25	0.27	0.20
383 Electrical Machinery	2.66	1.06	14.95	-0.66	0.15	0.09
384 Transport Equipment	-2.89	4.07	13.82	1.18	-0.99	-0.99
38A Misc. Mfrs.	3.08	-0.49	-1.14	-3.05	0.62	0.53
Nontradables						
4 Utilities					-0.01	0.00
5 Construction					0.01	0.00
6 Wholesale Trade					-0.01	0.00
7 Transportation					0.00	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.01	0.00
Total	1.37	1.25	6.86	-0.03	0.00	-0.00

TABLE A-12
SECTORAL EFFECTS ON CANADA OF US-CANADA FTA, TARIFFS ONLY
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	0.32	3.36	4.99	-0.17	-0.12	0.00
2 Mining, Quarrying	0.78	0.91	1.39	1.23	1.17	0.71
310 Food	4.90	4.52	12.51	-0.55	0.36	-0.27
321 Textiles	7.17	19.98	43.27	-1.36	-2.65	-3.67
322 Clothing	31.94	10.63	56.17	-0.05	1.20	0.16
323 Leather Products	9.04	0.72	7.57	-4.29	4.56	3.55
324 Footwear	27.33	6.90	45.23	-4.51	3.46	1.90
331 Wood Products	0.86	4.47	6.43	-1.01	0.38	-0.36
332 Furniture, Fixtures	11.96	20.11	35.58	-3.20	0.02	-1.08
341 Paper Products	-0.93	12.61	18.90	-0.19	-0.88	-1.43
342 Printing, Publishing	-0.74	3.12	3.83	0.51	-0.93	-1.12
35A Chemicals	-2.33	13.01	21.59	-1.12	-3.87	-4.51
35B Petroleum Products	1.21	0.48	0.97	0.67	1.12	0.33
355 Rubber Products	9.56	7.18	18.22	-2.62	2.27	1.39
36A Nonmetal Min. Prod.	1.25	4.64	11.97	-0.46	0.49	-0.31
362 Glass Products	35.38	-0.22	2.32	-14.62	22.06	20.47
371 Iron, Steel	9.86	5.00	11.57	-1.64	4.83	3.14
372 Nonferrous Metals	14.20	-4.05	-1.89	-7.35	11.74	8.80
381 Metal Products	12.09	11.67	18.66	-4.32	1.25	-0.85
382 Nonelec. Machinery	3.00	7.08	9.72	-3.44	-2.40	-3.55
383 Electrical Machinery	10.97	9.88	16.89	-4.30	0.37	-1.32
384 Transport Equipment	12.91	-5.55	-5.93	-3.76	10.11	7.58
38A Misc. Mfrs.	-1.51	7.29	11.64	-5.70	-4.48	-5.62
Nontradables						
4 Utilities					0.09	0.00
5 Construction					0.28	0.00
6 Wholesale Trade					-0.02	0.00
7 Transportation					0.22	0.00
8 Financial Services					-0.01	0.00
9 Personal Services					-0.26	0.00
Total	4.75	4.23	7.73	-1.24	0.52	0.02

TABLE A-13
SECTORAL EFFECTS ON MEXICO OF US-CANADA FTA, TARIFFS ONLY
PERCENT CHANGE

SECTOR	EXPORTS (2)	IMPORTS (3)	BILATERAL IMPORTS U.S. (4)	BILATERAL IMPORTS CANADA (5)	OUTPUT (6)	NO. FIRMS (7)
Tradables						
1 Agriculture	-0.02	-0.04	-0.05	-0.09	-0.02	0.00
2 Mining, Quarrying	0.73	-0.24	-0.33	0.20	0.57	0.46
310 Food	-0.11	0.10	-0.01	0.43	-0.02	-0.02
321 Textiles	-0.51	1.17	1.61	-1.66	-0.17	-0.14
322 Clothing	-0.04	0.89	1.34	2.19	-0.08	-0.04
323 Leather Products	-0.39	0.27	0.29	5.40	-0.08	-0.06
324 Footwear	-0.65	0.48	0.54	5.48	-0.08	-0.05
331 Wood Products	-0.16	0.04	-0.02	0.80	-0.14	-0.13
332 Furniture, Fixtures	-1.24	1.00	1.13	1.74	-0.72	-0.67
341 Paper Products	-0.32	0.31	0.38	-0.77	-0.14	-0.11
342 Printing, Publishing	-0.08	0.13	0.02	-1.53	-0.08	-0.07
35A Chemicals	-0.41	0.35	0.47	-3.57	-0.29	-0.32
35B Petroleum Products	0.74	-0.37	-0.35	0.16	0.31	0.09
355 Rubber Products	-0.66	0.39	0.42	2.81	-0.11	-0.10
36A Nonmetal Min. Prod.	0.11	0.02	-0.17	0.84	0.05	0.00
362 Glass Products	-0.56	-0.50	-1.23	24.55	0.41	0.45
371 Iron, Steel	0.37	-0.14	-0.59	5.56	0.22	0.09
372 Nonferrous Metals	2.44	-2.07	-3.16	14.07	2.00	1.76
381 Metal Products	0.07	-0.16	-0.30	4.07	0.12	0.04
382 Nonelec. Machinery	-0.29	0.12	0.08	-1.34	-0.14	-0.21
383 Electrical Machinery	-0.69	0.31	0.22	2.39	-0.59	-0.62
384 Transport Equipment	0.65	-0.54	-0.83	8.00	0.57	0.49
38A Misc. Mfrs.	-3.03	0.98	1.13	-2.79	-2.78	-2.80
Nontradables						
4 Utilities					0.08	0.00
5 Construction					0.04	0.00
6 Wholesale Trade					-0.00	0.00
7 Transportation					0.02	0.00
8 Financial Services					0.00	0.00
9 Personal Services					0.01	0.00
Total	0.06	0.03	-0.10	2.14	0.02	-0.13

Table A-14

Estimated U.S. Employment by Sector and Occupation, 1989
(Thousands of Workers)

Sector		Occupation									
ISIC	Name	Executive	Professional	Technical	Mktg./Sales	Admin./Clerical	Service	Agriculture	Skilled	Semi-/Unskilled	Total
1	Agr., For., & Fish.	56	61	18	18	88	38	2,186	76	153	2,694
2	Min. & Quarry.	36	30	14	4	44	7	0	166	111	413
310	Food, Bev., and Tob.	212	65	49	155	266	114	25	484	1,026	2,397
321	Textiles	74	33	21	20	129	32	23	189	794	1,315
322	Wearing Apparel	83	14	3	295	107	17	0	95	556	1,170
323	Leather Prod.	46	12	5	20	78	11	0	91	577	842
324	Footwear	8	1	0	5	21	4	0	31	147	219
331	Wood Prod.	31	6	4	9	33	9	7	73	220	391
332	Furn. & Fixt.	44	16	11	12	56	11	7	136	296	590
341	Paper & Paper Prod.	57	22	16	19	82	16	2	133	385	732
342	Print & Publ.	224	239	29	214	401	26	1	214	715	2,063
35A	Chemicals	171	123	82	65	236	44	1	259	603	1,585
35B	Petrol. & Rel. Prod.	47	30	20	10	72	13	1	128	193	514
355	Rubber Prod.	75	34	24	29	98	17	0	403	263	942
36A	Nonmetal Min. Prod.	39	11	8	13	41	10	0	68	193	383
362	Glass & Glass Prod.	18	10	7	4	30	8	0	53	166	297
371	Iron & Steel	32	15	12	7	60	16	0	135	320	597
372	Nonferrous Metals	49	20	10	13	73	16	0	132	319	632
381	Metal Prod.	288	149	110	74	407	56	3	752	1,494	3,333
382	Nonelec. Mach.	245	240	157	61	356	34	1	445	638	2,179
383	Elec. Mach.	199	164	115	46	307	36	2	482	896	2,249
384	Transp. Equip.	296	309	134	62	463	83	2	966	1,596	3,913
38A	Misc. Manuf.	235	118	82	186	343	34	2	438	773	2,212
4	Elec., Gas & Water	101	102	52	20	276	36	2	437	153	1,180
5	Construction	512	174	132	63	493	57	9	4,140	1,701	7,282
6	Whole. & Ret. Trade	2,847	588	104	7,480	2,975	4,996	37	1,936	3,123	24,086
7	Transp., Stor., & Comm.	519	181	177	180	2,092	222	468	891	1,576	6,307
8	Fin., Ins., & Real Est.	2,169	1,238	402	1,566	4,284	438	132	348	364	10,941
9	Comm., Soc., & Pers. Serv.	3,329	10,394	1,806	802	6,329	8,317	231	1,379	2,145	34,730
	Total	12,043	14,400	3,605	11,454	20,241	14,720	3,146	15,082	21,495	116,182

Source: Adapted from U.S. Department of Labor, "National Matrix Tape," proportions applied to 1989 employment data in the model.

Table A-15

Estimated Percentage Distribution of U.S. Employment by Sector and Occupation, 1989

Sector		Occupation									
ISIC	Name	Executive	Professional	Technical	Mktg./Sales	Admin./Clerical	Service	Agriculture	Skilled	Semi-/Unskilled	Total
1	Agr., For., & Fish.	2.10	2.25	0.66	0.68	3.26	1.40	81.14	2.83	5.68	100.00
2	Min. & Quarry.	8.70	7.35	3.29	0.96	10.61	1.64	0.06	40.36	27.03	100.00
310	Food, Bev., and Tob.	8.84	2.71	2.06	6.46	11.11	4.76	1.03	20.20	42.81	100.00
321	Textiles	5.62	2.47	1.63	1.56	9.84	2.40	1.76	14.33	60.38	100.00
322	Wearing Apparel	7.08	1.22	0.26	25.21	9.15	1.41	0.01	8.16	47.50	100.00
323	Leather Prod.	5.41	1.48	0.59	2.43	9.30	1.36	0.01	10.86	68.56	100.00
324	Footwear	3.84	0.68	0.17	2.48	9.53	1.80	0.00	14.16	67.34	100.00
331	Wood Prod.	8.05	1.55	0.98	2.30	8.46	2.18	1.74	18.59	56.19	100.00
332	Furn. & Fixt.	7.42	2.74	1.90	2.11	9.45	1.80	1.21	23.13	50.25	100.00
341	Paper & Paper Prod.	7.80	2.98	2.22	2.56	11.23	2.17	0.34	18.17	52.52	100.00
342	Print & Publ.	10.86	11.59	1.39	10.38	19.42	1.26	0.07	10.36	34.67	100.00
35A	Chemicals	10.81	7.74	5.16	4.12	14.91	2.77	0.09	16.34	38.05	100.00
35B	Petrol. & Rel. Prod.	9.15	5.93	3.91	1.87	13.95	2.59	0.12	24.99	37.48	100.00
355	Rubber Prod.	7.92	3.56	2.54	3.13	10.37	1.82	0.03	42.76	27.87	100.00
36A	Nonmetal Min. Prod.	10.17	2.77	2.19	3.28	10.81	2.57	0.03	17.77	50.34	100.00
362	Glass & Glass Prod.	6.07	3.24	2.45	1.29	10.22	2.78	0.08	17.99	55.88	100.00
371	Iron & Steel	5.41	2.58	1.96	1.16	9.99	2.70	0.04	22.59	53.52	100.00
372	Nonferrous Metals	7.74	3.12	1.62	2.03	11.47	2.59	0.04	20.83	50.53	100.00
381	Metal Prod.	8.64	4.47	3.29	2.22	12.22	1.69	0.08	22.56	44.82	100.00
382	Nonelec. Mach.	11.24	11.03	7.22	2.79	16.33	1.58	0.07	20.44	29.30	100.00
383	Elec. Mach.	8.87	7.31	5.09	2.07	13.67	1.61	0.07	21.44	39.86	100.00
384	Transp. Equip.	7.57	7.90	3.43	1.59	11.83	2.13	0.06	24.70	40.79	100.00
38A	Misc. Manuf.	10.61	5.35	3.71	8.41	15.51	1.56	0.09	19.80	34.95	100.00
4	Elec., Gas & Water	8.55	8.61	4.44	1.70	23.40	3.08	0.21	37.03	12.97	100.00
5	Construction	7.04	2.40	1.81	0.87	6.77	0.78	0.13	56.86	23.35	100.00
6	Whole. & Ret. Trade	11.82	2.44	0.43	31.06	12.35	20.74	0.15	8.04	12.97	100.00
7	Transp., Stor., & Comm.	8.23	2.87	2.81	2.85	33.16	3.53	7.43	14.13	24.98	100.00
8	Fin., Ins., & Real Est.	19.82	11.32	3.67	14.31	39.16	4.01	1.21	3.18	3.33	100.00
9	Comm., Soc., & Pers. Serv.	9.58	29.93	5.20	2.31	18.22	23.95	0.67	3.97	6.18	100.00
	Total	10.37	12.39	3.10	9.86	17.42	12.67	2.71	12.98	18.50	100.00

Source: Adapted from U.S. Department of Labor, "National Matrix Tape."

Table A-16

Change in U.S. Employment by Sector and Occupation due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

Sector	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
1 Agr., For., & Fish.	-38	-41	-12	-12	-60	-26	-1484	-52	-104	-1829
2 Min. & Quarry	-362	-305	-137	-40	-441	-68	-3	-1676	-1122	-4154
310 Food, Bev., and Tob.	-21	-6	-5	-15	-27	-11	-2	-48	-102	-239
321 Textiles	503	221	146	139	881	215	157	1283	5405	8951
322 Wearing Apparel	311	54	11	1106	402	62	0	358	2085	4390
323 Leather Prod.	-12	-3	-1	-5	-21	-3	0	-24	-151	-221
324 Footwear	-1	0	0	0	-2	0	0	-2	-11	-16
331 Wood Prod.	17	3	2	5	18	5	4	39	118	211
332 Furn. & Fixt.	57	21	15	16	73	14	9	179	388	772
341 Paper & Paper Prod.	118	45	34	39	170	33	5	275	794	1512
342 Print & Publ.	69	74	9	66	124	8	0	66	221	638
35A Chemicals	575	412	274	219	794	148	5	870	2025	5322
35B Petrol. & Rel. Prod.	-7	-4	-3	-1	-10	-2	0	-18	-27	-72
355 Rubber Prod.	72	32	23	28	94	17	0	387	252	905
36A Nonmetal Min. Prod.	43	12	9	14	45	11	0	74	211	419
362 Glass & Glass Prod.	-177	-95	-72	-38	-298	-81	-2	-525	-1630	-2917
371 Iron & Steel	-13	-6	-5	-3	-23	-6	0	-53	-125	-233
372 Nonferrous Metals	-507	-204	-106	-133	-750	-170	-2	-1363	-3305	-6541
381 Metal Prod.	135	70	52	35	191	26	1	353	702	1566
382 Nonelec. Mach.	1757	1723	1129	436	2553	247	10	3195	4580	15631
383 Elec. Mach.	-1291	-1064	-741	-301	-1990	-235	-10	-3121	-5801	-14554
384 Transp. Equip.	-1539	-1607	-698	-322	-2406	-433	-11	-5021	-8293	-20329
38A Misc. Manuf.	1354	682	474	1073	1978	199	12	2526	4458	12755
4 Elec., Gas & Water	-4	-4	-2	-1	-11	-1	0	-18	-6	-47
5 Construction	141	48	36	17	136	16	3	1139	468	2003
6 Whole. & Ret. Trade	-21	-4	-1	-56	-22	-37	0	-14	-23	-180
7 Transp., Stor., & Comm.	57	20	19	20	228	24	51	97	172	688
8 Fin., Ins., & Real Est.	-317	-181	-59	-229	-625	-64	-19	-51	-53	-1597
9 Comm., Soc., & Pers. Serv.	-272	-848	-147	-65	-516	-679	-19	-113	-175	-2834
Total	629	-956	245	1992	485	-794	-1296	-1256	952	0

Table A-17

Change in U.S. Employment by Sector and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.
(Number of Workers)

Sector	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
1 Agr., For., & Fish.	-49	-53	-16	-16	-77	-33	-1906	-66	-133	-2349
2 Min. & Quarry.	-337	-284	-128	-37	-411	-64	-3	-1563	-1046	-3874
310 Food, Bev., and Tob.	-53	-16	-12	-39	-66	-28	-6	-121	-255	-597
321 Textiles	462	203	134	128	810	197	145	1178	4964	8221
322 Wearing Apparel	168	29	6	598	217	33	0	194	1127	2373
323 Leather Prod.	-13	-3	-1	-6	-22	-3	0	-26	-162	-236
324 Footwear	-1	0	0	-1	-2	0	0	-3	-15	-22
331 Wood Prod.	17	3	2	5	18	5	4	39	118	210
332 Furn. & Fixt.	57	21	15	16	73	14	9	178	386	769
341 Paper & Paper Prod.	116	44	33	38	167	32	5	271	783	1491
342 Print & Publ.	70	75	9	67	125	8	0	67	223	644
35A Chemicals	574	411	274	219	792	147	5	868	2020	5308
35B Petrol. & Rel. Prod.	-6	-4	-3	-1	-9	-2	0	-17	-25	-66
355 Rubber Prod.	72	32	23	28	95	17	0	390	254	912
36A Nonmetal Min. Prod.	45	12	10	15	48	11	0	79	223	442
362 Glass & Glass Prod.	-178	-95	-72	-38	-300	-82	-2	-528	-1640	-2935
371 Iron & Steel	-5	-3	-2	-1	-10	-3	0	-22	-53	-98
372 Nonferrous Metals	-486	-196	-102	-128	-719	-163	-2	-1308	-3170	-6275
381 Metal Prod.	145	75	55	37	205	28	1	377	750	1673
382 Nonelec. Mach.	1797	1763	1155	447	2612	253	11	3269	4686	15993
383 Elec. Mach.	-1198	-988	-688	-280	-1848	-218	-10	-2897	-5387	-13514
384 Transp. Equip.	-1523	-1590	-691	-319	-2381	-428	-11	-4970	-8208	-20121
38A Misc. Manuf.	1372	692	480	1088	2005	201	12	2561	4519	12931
4 Elec., Gas & Water	2	2	1	0	6	1	0	10	3	26
5 Construction	150	51	39	18	144	17	3	1210	497	2128
6 Whole. & Ret. Trade	21	4	1	55	22	37	0	14	23	178
7 Transp., Stor., & Comm.	65	23	22	23	262	28	59	112	197	789
8 Fin., Ins., & Real Est.	-268	-153	-50	-193	-528	-54	-16	-43	-45	-1350
9 Comm., Soc., & Pers. Serv.	-254	-794	-138	-61	-483	-635	-18	-105	-164	-2652
Total	762	-738	358	1663	742	-684	-1721	-853	472	0

Table A-18

Change in U.S. Employment by Sector and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C.
(Number of Workers)

Sector	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
1 Agr., For., & Fish.	47	50	15	15	73	31	1806	63	126	2226
2 Min. & Quarry.	-392	-331	-148	-43	-478	-74	-3	-1816	-1216	-4502
310 Food, Bev., and Tob.	-41	-13	-10	-30	-52	-22	-5	-94	-199	-465
321 Textiles	459	202	133	127	804	196	144	1170	4927	8160
322 Wearing Apparel	158	27	6	563	204	31	0	182	1061	2234
323 Leather Prod.	-14	-4	-2	-6	-25	-4	0	-29	-182	-266
324 Footwear	-2	0	0	-1	-5	-1	0	-7	-32	-48
331 Wood Prod.	9	2	1	3	10	3	2	22	66	118
332 Furn. & Fixt.	49	18	13	14	62	12	8	152	331	658
341 Paper & Paper Prod.	107	41	30	35	154	30	5	249	718	1368
342 Print & Publ.	62	66	8	59	111	7	0	59	198	571
35A Chemicals	559	401	267	213	771	143	4	845	1968	5172
35B Petrol. & Rel. Prod.	-7	-5	-3	-2	-11	-2	0	-20	-31	-82
355 Rubber Prod.	74	33	24	29	97	17	0	398	260	932
36A Nonmetal Min. Prod.	41	11	9	13	44	10	0	72	204	405
362 Glass & Glass Prod.	-188	-100	-76	-40	-316	-86	-3	-556	-1728	-3093
371 Iron & Steel	-5	-2	-2	-1	-9	-2	0	-19	-46	-86
372 Nonferrous Metals	-517	-208	-108	-136	-765	-174	-2	-1391	-3373	-6676
381 Metal Prod.	148	77	57	38	210	29	1	387	769	1716
382 Nonelec. Mach.	1780	1746	1144	442	2586	251	11	3236	4639	15833
383 Elec. Mach.	-1352	-1115	-777	-316	-2085	-246	-11	-3270	-6079	-15250
384 Transp. Equip.	-1316	-1374	-597	-275	-2057	-370	-10	-4294	-7093	-17387
38A Misc. Manuf.	1245	628	436	987	1818	183	11	2323	4099	11729
4 Elec., Gas & Water	-10	-10	-5	-2	-28	-4	0	-44	-15	-119
5 Construction	135	46	35	17	130	15	2	1087	447	1912
6 Whole. & Ret. Trade	-59	-12	-2	-156	-62	-104	-1	-40	-65	-501
7 Transp., Stor., & Comm.	49	17	17	17	198	21	44	85	149	598
8 Fin., Ins., & Real Est.	-362	-207	-67	-261	-715	-73	-22	-58	-61	-1826
9 Comm., Soc., & Pers. Serv.	-319	-997	-173	-77	-607	-798	-22	-132	-206	-3333
Total	335	-1016	223	1226	56	-982	1960	-1442	-362	0

Table A-19

Change in U.S. Employment by Sector and Occupation due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico Scenario D.

(Number of Workers)

Sector	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
1 Agr., For., & Fish.	284	304	89	92	441	189	10974	383	768	13524
2 Min. & Quarry.	-491	-414	-186	-54	-599	-93	-4	-2276	-1524	-5642
310 Food, Bev., and Tob.	152	47	36	111	192	82	18	348	738	1725
321 Textiles	666	293	193	185	1167	284	208	1698	7156	11851
322 Wearing Apparel	501	86	19	1784	648	100	1	577	3362	7077
323 Leather Prod.	11	3	1	5	18	3	0	21	136	198
324 Footwear	14	3	1	9	36	7	0	53	252	374
331 Wood Prod.	86	16	10	24	90	23	18	198	597	1063
332 Furn. & Fixt.	68	25	18	19	87	16	11	212	461	918
341 Paper & Paper Prod.	149	57	42	49	214	41	6	347	1002	1907
342 Print & Publ.	98	105	13	94	175	11	1	94	313	903
35A Chemicals	693	496	330	264	956	178	6	1048	2440	6411
35B Petrol. & Rel. Prod.	-10	-7	-4	-2	-15	-3	0	-27	-41	-110
355 Rubber Prod.	145	65	46	57	189	33	0	781	509	1826
36A Nonmetal Min. Prod.	54	15	12	18	58	14	0	95	269	534
362 Glass & Glass Prod.	-117	-62	-47	-25	-197	-54	-2	-346	-1075	-1924
371 Iron & Steel	-28	-13	-10	-6	-51	-14	0	-115	-273	-510
372 Nonferrous Metals	-1023	-412	-214	-269	-1514	-344	-5	-2752	-6672	-13206
381 Metal Prod.	157	81	60	40	222	31	1	410	815	1818
382 Nonelec. Mach.	1847	1812	1187	459	2684	260	11	3359	4816	16435
383 Elec. Mach.	-2929	-2415	-1682	-684	-4515	-533	-24	-7081	-13165	-33028
384 Transp. Equip.	-1028	-1074	-466	-215	-1607	-289	-8	-3355	-5541	-13583
38A Misc. Manuf.	922	465	323	731	1347	135	8	1720	3036	8686
4 Elec., Gas & Water	-44	-44	-23	-9	-121	-16	-1	-191	-67	-516
5 Construction	97	33	25	12	93	11	2	781	321	1374
6 Whole. & Ret. Trade	-273	-56	-10	-717	-285	-479	-4	-186	-299	-2309
7 Transp., Stor., & Comm.	-4	-2	-1	-2	-18	-2	-4	-8	-13	-53
8 Fin., Ins., & Real Est.	-540	-308	-100	-390	-1067	-109	-33	-87	-91	-2724
9 Comm., Soc., & Pers. Serv.	-289	-903	-157	-70	-550	-723	-20	-120	-186	-3018
Total	-833	-1806	-497	1510	-1922	-1239	11162	-4418	-1958	0

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Table A-20

Change in U.S. Employment by Sector and Occupation due to US-Canada FTA, Tariffs Only

Scenario E.
(Number of Workers)

Sector	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
1 Agr., For., & Fish.	16	17	5	5	25	11	630	22	44	776
2 Min. & Quarry.	-175	-148	-66	-19	-213	-33	-1	-811	-543	-2010
310 Food, Bev., and Tob.	-36	-11	-8	-26	-45	-19	-4	-82	-173	-404
321 Textiles	477	210	139	132	836	204	149	1217	5129	8494
322 Wearing Apparel	256	44	9	910	330	51	0	294	1715	3610
323 Leather Prod.	-2	-1	0	-1	-4	-1	0	-4	-26	-38
324 Footwear	5	1	0	3	13	2	0	20	94	139
331 Wood Prod.	-9	-2	-1	-3	-10	-2	-2	-21	-63	-113
332 Furn. & Fixt.	123	45	32	35	156	30	20	382	830	1652
341 Paper & Paper Prod.	123	47	35	41	178	34	5	288	832	1584
342 Print & Publ.	53	56	7	50	94	6	0	50	169	487
35A Chemicals	497	356	237	189	685	127	4	751	1748	4595
35B Petrol. & Rel. Prod.	-4	-3	-2	-1	-6	-1	0	-11	-16	-43
355 Rubber Prod.	10	5	3	4	14	2	0	56	36	130
36A Nonmetal Min. Prod.	15	4	3	5	16	4	0	26	72	144
362 Glass & Glass Prod.	-284	-152	-115	-60	-478	-130	-4	-842	-2615	-4680
371 Iron & Steel	-101	-48	-36	-22	-186	-50	-1	-420	-995	-1860
372 Nonferrous Metals	-363	-146	-76	-95	-537	-122	-2	-975	-2364	-4679
381 Metal Prod.	39	20	15	10	56	8	0	103	204	455
382 Nonelec. Mach.	838	822	539	208	1218	118	5	1524	2185	7456
383 Elec. Mach.	249	205	143	58	384	45	2	602	1119	2808
384 Transp. Equip.	-1918	-2003	-870	-402	-2999	-540	-14	-6259	-10337	-25341
38A Misc. Manuf.	1218	614	426	966	1779	179	10	2272	4010	11474
4 Elec., Gas & Water	-9	-9	-5	-2	-25	-3	0	-39	-14	-105
5 Construction	51	17	13	6	49	6	1	411	169	722
6 Whole. & Ret. Trade	-127	-26	-5	-334	-133	-223	-2	-86	-139	-1075
7 Transp., Stor., & Comm.	8	3	3	3	31	3	7	13	24	94
8 Fin., Ins., & Real Est.	-160	-91	-30	-115	-316	-32	-10	-26	-27	-806
9 Comm., Soc., & Pers. Serv.	-332	-1037	-180	-80	-631	-830	-23	-138	-214	-3465
Total	459	-1209	215	1466	283	-1157	772	-1682	853	0

Table A-21

Estimated U.S. Employment by Sector and Region, 1989
(Thousands of Workers)

Sector		Region									
ISIC	Name	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1	Agr., For., & Fish.	77	164	377	485	436	192	310	173	481	2,694
2	Min. & Quarry.	1	26	35	22	54	41	146	65	21	413
310	Food, Bev., and Tob.	92	366	466	259	381	166	258	84	325	2,397
321	Textiles	98	161	55	19	753	119	37	14	61	1,315
322	Wearing Apparel	64	282	112	59	241	144	110	29	128	1,170
323	Leather Prod.	53	222	63	33	183	126	69	14	79	842
324	Footwear	53	35	24	29	23	31	14	1	9	219
331	Wood Prod.	23	38	54	24	63	41	35	20	93	391
332	Furn. & Fixt.	34	60	94	31	113	56	51	26	125	590
341	Paper & Paper Prod.	73	122	170	39	126	60	59	7	76	732
342	Print & Publ.	147	446	449	171	268	91	146	78	267	2,063
35A	Chemicals	110	393	351	94	236	104	135	32	131	1,585
35B	Petrol. & Rel. Prod.	10	106	133	19	36	21	115	15	58	514
355	Rubber Prod.	58	150	179	64	143	71	128	35	114	942
36A	Nonmetal Min. Prod.	12	57	80	33	56	27	49	23	47	383
362	Glass & Glass Prod.	10	81	75	6	53	17	21	4	29	297
371	Iron & Steel	27	125	245	26	43	37	37	15	44	597
372	Nonferrous Metals	38	99	199	34	62	53	55	15	76	632
381	Metal Prod.	278	581	947	228	361	191	258	94	395	3,333
382	Nonelec. Mach.	212	345	503	192	202	89	185	92	359	2,179
383	Elec. Mach.	192	426	564	127	245	112	164	78	339	2,249
384	Transp. Equip.	264	434	1,418	272	340	173	292	80	639	3,913
38A	Misc. Manuf.	182	410	455	162	310	125	195	85	288	2,212
4	Elec., Gas & Water	52	171	196	87	203	110	139	78	144	1,180
5	Construction	322	818	997	548	1,379	483	1,166	537	1,030	7,282
6	Whole. & Ret. Trade	1,248	3,609	4,313	1,975	3,869	1,352	2,590	1,371	3,758	24,086
7	Transp., Stor., & Comm.	290	1,077	1,073	613	970	332	668	351	932	6,307
8	Fin., Ins., & Real Est.	650	2,020	1,758	747	1,680	504	1,194	589	1,800	10,941
9	Comm., Soc., & Pers. Serv.	2,061	5,767	5,931	2,677	5,981	1,977	3,398	1,843	5,094	34,730
	Total	6,731	18,590	21,316	9,077	18,808	6,849	12,024	5,849	16,942	116,182

Source: Adapted from U.S. Department of Labor, "National Matrix Tape," proportions applied to 1989 employment data in the model.

Table A-22

Estimated Percentage Distribution of U.S. Employment by Sector and Region, 1989

Sector		Region									
ISIC	Name	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1	Agr., For., & Fish.	2.86	6.07	14.00	18.00	16.18	7.13	11.50	6.42	17.85	100.00
2	Min. & Quarry.	0.36	6.28	8.55	5.44	12.97	9.96	35.40	15.81	5.20	100.00
310	Food, Bev., and Tob.	3.83	15.26	19.45	10.81	15.88	6.94	10.77	3.50	13.56	100.00
321	Textiles	7.44	12.24	4.18	1.43	57.23	9.06	2.77	1.04	4.61	100.00
322	Wearing Apparel	5.50	24.11	9.61	5.02	20.57	12.28	9.45	2.52	10.93	100.00
323	Leather Prod.	6.31	26.36	7.47	3.91	21.71	15.02	8.20	1.67	9.35	100.00
324	Footwear	24.03	16.13	10.94	13.20	10.60	14.27	6.26	0.62	3.89	100.00
331	Wood Prod.	5.90	9.72	13.70	6.03	16.07	10.45	9.06	5.15	23.90	100.00
332	Furn. & Fixt.	5.71	10.20	15.96	5.31	19.13	9.47	8.62	4.48	21.12	100.00
341	Paper & Paper Prod.	9.97	16.61	23.19	5.37	17.26	8.22	8.00	1.01	10.34	100.00
342	Print & Publ.	7.14	21.62	21.76	8.28	13.00	4.40	7.06	3.78	12.96	100.00
35A	Chemicals	6.91	24.81	22.14	5.95	14.88	6.56	8.51	2.00	8.25	100.00
35B	Petrol. & Rel. Prod.	1.99	20.55	25.93	3.79	6.99	4.08	22.33	3.00	11.36	100.00
355	Rubber Prod.	6.15	15.92	18.98	6.81	15.23	7.53	13.58	3.69	12.11	100.00
36A	Nonmetal Min. Prod.	3.03	14.81	20.79	8.50	14.71	7.08	12.75	5.95	12.39	100.00
362	Glass & Glass Prod.	3.49	27.34	25.14	2.12	17.91	5.77	6.98	1.33	9.93	100.00
371	Iron & Steel	4.46	20.85	40.99	4.40	7.12	6.24	6.17	2.44	7.29	100.00
372	Nonferrous Metals	6.03	15.68	31.55	5.36	9.75	8.45	8.72	2.38	12.08	100.00
381	Metal Prod.	8.33	17.44	28.42	6.83	10.83	5.74	7.75	2.83	11.84	100.00
382	Nonelec. Mach.	9.72	15.83	23.10	8.80	9.28	4.10	8.47	4.20	16.49	100.00
383	Elec. Mach.	8.55	18.93	25.08	5.66	10.91	4.98	7.30	3.48	15.08	100.00
384	Transp. Equip.	6.75	11.09	36.24	6.96	8.69	4.43	7.47	2.05	16.33	100.00
38A	Misc. Manuf.	8.25	18.52	20.55	7.33	14.00	5.67	8.83	3.84	13.02	100.00
4	Elec., Gas & Water	4.38	14.51	16.58	7.40	17.17	9.30	11.80	6.61	12.24	100.00
5	Construction	4.43	11.24	13.70	7.53	18.94	6.63	16.01	7.38	14.14	100.00
6	Whole. & Ret. Trade	5.18	14.99	17.91	8.20	16.06	5.61	10.75	5.69	15.60	100.00
7	Transp., Stor., & Comm.	4.60	17.08	17.01	9.72	15.38	5.27	10.60	5.56	14.77	100.00
8	Fin., Ins., & Real Est.	5.94	18.46	16.07	6.83	15.36	4.61	10.91	5.38	16.45	100.00
9	Comm., Soc., & Pers. Serv.	5.93	16.60	17.08	7.71	17.22	5.69	9.79	5.31	14.67	100.00
	Total	5.79	16.00	18.35	7.81	16.19	5.89	10.35	5.03	14.58	100.00

Source: Adapted from U.S. Department of Labor, "National Matrix Tape."

Table A-23
Estimated U.S. Employment by State and Sector, 1989
(Thousands of Workers)

State	Sector									
	Agr., For., & Fish. 1	Mining & Quarrying 2	Food, Bev., and Tob. 310	Textiles 321	Wearing Apparel 322	Leather Prod. 323	Footwear 324	Wood Prod. 331	Furn. & Fixt. 332	Paper & Paper Prod. 341
Alabama	44	7	36	59	41	33	0	13	16	27
Alaska	8	2	6	0	1	0	0	0	0	1
Arizona	28	10	11	3	6	3	0	4	7	2
Arkansas	61	3	42	5	11	8	8	9	13	13
California	305	17	233	51	105	70	8	38	65	43
Colorado	35	15	28	2	8	4	1	3	6	3
Connecticut	12	1	24	14	12	8	1	3	7	11
Delaware	5	0	16	4	3	2	0	1	1	1
District of Columbia	1	0	1	0	1	0	0	0	0	0
Florida	127	6	73	19	42	23	6	10	16	21
Georgia	74	3	74	147	55	46	2	13	14	33
Hawaii	12	0	19	1	4	2	0	0	0	0
Idaho	36	3	19	2	2	0	0	6	4	1
Illinois	98	13	146	15	37	22	6	13	20	31
Indiana	57	4	54	5	14	8	3	10	17	15
Iowa	118	1	62	3	8	4	0	3	4	4
Kansas	58	6	29	2	8	4	0	3	2	5
Kentucky	54	23	47	11	22	19	6	6	7	8
Louisiana	50	33	44	6	16	9	0	7	7	17
Maine	22	0	13	13	5	4	23	6	4	27
Maryland	28	1	31	5	17	10	2	4	4	11
Massachusetts	23	0	41	42	39	30	16	5	14	25
Michigan	57	5	79	9	24	7	4	7	18	27
Minnesota	99	7	61	6	10	6	1	8	11	15
Mississippi	46	7	25	9	31	27	3	11	15	8
Missouri	74	4	63	5	25	17	27	7	10	14
Montana	32	3	5	1	2	0	0	3	4	1
Nebraska	64	1	28	1	4	1	0	1	2	1
Nevada	5	2	3	1	2	1	0	1	1	0
New Hampshire	7	0	4	5	2	3	11	3	6	6
New Jersey	22	2	91	34	49	35	4	7	11	30
New Mexico	18	12	6	2	3	2	0	2	2	0
New York	73	4	135	64	134	108	15	16	22	47
North Carolina	97	2	82	327	55	46	6	17	47	26
North Dakota	36	3	5	1	2	0	0	0	0	0
Ohio	75	12	110	14	25	15	5	10	20	43
Oklahoma	39	27	24	5	12	6	0	2	5	5
Oregon	70	1	27	4	6	2	0	35	37	10
Pennsylvania	69	21	140	63	99	80	17	15	27	44
Rhode Island	2	0	5	23	5	7	1	4	1	2
South Carolina	37	1	26	183	31	26	0	6	8	14
South Dakota	36	1	10	1	2	1	0	1	1	0
Tennessee	48	4	58	40	51	47	23	10	18	17
Texas	159	84	148	20	72	46	6	18	26	24
Utah	12	7	10	2	6	4	0	1	2	0
Vermont	10	0	5	2	2	2	0	1	2	2
Virginia	56	12	61	65	32	25	4	10	19	17
Washington	87	1	41	5	12	4	0	20	21	22
West Virginia	10	28	16	2	6	5	2	3	3	3
Wisconsin	89	1	77	11	12	10	6	13	18	55
Wyoming	8	13	2	0	1	0	0	0	1	0
Total	2,694	412	2,397	1,315	1,170	842	219	391	590	732

Source: Adapted from U.S. Department of Labor, "National Matrix Tape," proportions applied to 1989 employment data in the model.

Table A-23, Continued
Estimated U.S. Employment by State and Sector, 1989
(Thousands of Workers)

State	Sector									
	Print & Publ. 342	Chemicals 35A	Petrol. & Rel. Products 35B	Rubber Products 355	Nonmetal Min. Products 36A	Glass & Glass Products 362	Iron & Steel 371	Nonferrous Metals 372	Metal Products 381	Nonelectrical Machinery 382
Alabama	17	21	9	21	10	3	22	19	48	18
Alaska	2	0	0	0	0	0	0	0	0	1
Arizona	18	6	0	7	4	1	3	5	37	25
Arkansas	16	10	2	9	4	1	2	9	34	13
California	214	115	52	93	37	26	29	55	333	324
Colorado	26	14	5	11	8	2	4	4	25	35
Connecticut	37	36	3	15	3	3	10	16	91	50
Delaware	4	17	2	6	0	0	1	0	5	2
District of Columbia	10	0	0	0	0	0	0	0	1	2
Florida	68	35	4	26	13	6	4	10	65	46
Georgia	35	29	5	24	10	6	8	12	52	27
Hawaii	4	1	0	2	1	0	0	1	2	2
Idaho	5	3	0	3	2	0	0	1	4	6
Illinois	177	96	40	48	17	16	47	46	244	157
Indiana	48	62	30	20	10	14	43	34	144	50
Iowa	28	14	1	12	6	0	5	11	46	38
Kansas	25	12	7	12	7	1	5	3	24	17
Kentucky	25	21	7	15	6	4	5	13	49	30
Louisiana	15	25	18	23	4	3	3	8	21	15
Maine	8	3	0	3	1	0	1	1	12	5
Maryland	49	19	10	12	7	3	9	5	35	29
Massachusetts	74	53	4	26	5	3	9	13	113	117
Michigan	65	66	13	34	10	10	46	36	160	103
Minnesota	51	24	4	11	5	3	5	7	67	84
Mississippi	12	9	3	8	4	3	2	4	30	11
Missouri	48	37	6	21	12	2	11	12	70	32
Montana	4	0	1	1	1	0	0	2	2	2
Nebraska	13	7	1	5	2	0	1	1	14	11
Nevada	5	1	0	2	2	0	0	1	4	3
New Hampshire	11	7	1	4	1	1	3	2	23	21
New Jersey	100	150	20	45	10	23	13	23	109	67
New Mexico	7	1	1	4	2	0	0	0	4	5
New York	236	156	16	55	16	19	24	33	204	178
North Carolina	36	44	3	26	7	11	3	9	101	41
North Dakota	3	0	1	1	0	0	0	0	2	3
Ohio	102	98	46	64	33	32	79	63	283	124
Oklahoma	18	6	17	18	6	8	4	4	36	27
Oregon	17	5	2	6	3	1	9	6	27	13
Pennsylvania	110	88	70	50	31	38	88	44	268	99
Rhode Island	12	9	1	7	0	2	4	6	28	12
South Carolina	16	37	2	18	6	7	3	5	40	21
South Dakota	2	1	0	2	1	0	0	0	4	5
Tennessee	36	53	3	26	7	8	8	17	64	31
Texas	96	93	78	77	34	9	27	34	168	129
Utah	10	5	4	5	4	1	5	2	16	15
Vermont	5	2	1	3	1	0	0	1	12	7
Virginia	44	38	3	20	9	4	8	10	46	28
Washington	30	9	3	12	5	3	5	15	31	20
West Virginia	7	16	6	12	3	16	7	9	17	6
Wisconsin	57	29	3	13	9	2	30	22	117	69
Wyoming	3	0	3	1	0	0	0	0	2	1
Total	2,063	1,585	514	942	383	297	597	632	3,333	2,179

Source: Adapted from U.S. Department of Labor, "National Matrix Tape," proportions applied to 1989 employment data in the model.

Table A-23, Continued
Estimated U.S. Employment by State and Sector, 1989
(Thousands of Workers)

State	Sector									Total
	Electrical Machinery 383	Transport. Equipment 384	Misc. Manufacturing 38A	Elect., Gas & Water 4	Construction 5	Wholesale & Retail Trade 6	Transp., Stor., & Comm. 7	Fin., Ins., & Real Est. 8	Comm., Soc., Pers. Serv. 9	
Alabama	24	46	32	29	134	349	82	124	530	1,814
Alaska	0	0	1	3	17	38	18	19	82	201
Arizona	34	29	19	20	124	303	58	135	423	1,328
Arkansas	18	18	25	13	73	207	55	65	283	1,032
California	305	457	233	98	737	2,770	687	1,393	3,818	12,709
Colorado	22	21	34	19	146	366	102	177	491	1,618
Connecticut	60	131	45	14	79	308	69	201	478	1,743
Delaware	3	10	5	2	20	71	15	23	97	316
District of Columbia	1	0	2	2	13	49	19	42	211	357
Florida	55	82	64	50	398	1,173	293	523	1,451	4,708
Georgia	32	62	44	35	178	579	163	224	797	2,782
Hawaii	1	6	3	4	37	149	34	50	164	503
Idaho	1	4	5	4	37	107	33	44	135	469
Illinois	163	209	143	47	288	1,234	365	618	1,643	5,999
Indiana	114	165	76	31	145	563	135	195	739	2,805
Iowa	22	42	30	13	91	332	96	115	438	1,550
Kansas	12	75	19	13	85	268	94	107	377	1,279
Kentucky	36	40	23	21	119	336	85	134	471	1,644
Louisiana	13	40	22	23	220	422	109	208	563	1,943
Maine	6	16	7	5	30	114	26	34	159	546
Maryland	40	33	34	20	157	436	125	233	956	2,326
Massachusetts	87	76	93	23	140	577	142	313	1,045	3,145
Michigan	63	627	66	43	192	915	187	351	1,335	4,557
Minnesota	38	38	44	17	125	501	136	201	668	2,252
Mississippi	14	36	20	12	89	211	52	76	329	1,105
Missouri	42	96	45	23	142	538	162	202	734	2,481
Montana	1	1	3	5	31	85	35	32	130	386
Nebraska	10	13	17	13	55	180	72	72	251	844
Nevada	4	2	4	5	38	168	28	40	146	470
New Hampshire	19	15	19	4	31	100	21	43	144	519
New Jersey	91	78	100	33	188	778	235	451	1,131	3,927
New Mexico	5	6	5	10	64	129	33	68	218	611
New York	163	185	207	76	325	1,686	544	1,092	2,939	8,772
North Carolina	48	42	81	35	192	582	127	192	825	3,113
North Dakota	1	3	4	5	27	78	24	27	101	328
Ohio	156	309	123	53	260	1,087	252	422	1,525	5,440
Oklahoma	19	46	24	18	138	321	89	144	463	1,533
Oregon	19	22	25	14	88	311	71	127	401	1,359
Pennsylvania	172	171	102	62	304	1,145	299	477	1,696	5,890
Rhode Island	13	21	15	3	22	96	17	42	149	511
South Carolina	26	31	26	21	120	292	56	103	401	1,562
South Dakota	2	4	4	4	24	78	28	24	108	344
Tennessee	38	53	50	47	141	456	113	170	647	2,286
Texas	114	188	124	86	734	1,641	415	777	2,089	7,516
Utah	10	16	12	10	57	156	38	64	231	705
Vermont	7	5	4	3	20	53	15	16	87	267
Virginia	31	70	46	23	212	530	129	269	997	2,818
Washington	14	154	26	25	150	490	121	211	631	2,170
West Virginia	11	9	8	15	90	157	44	71	244	827
Wisconsin	69	107	47	22	113	514	134	172	690	2,514
Wyoming	1	1	2	4	40	56	24	29	67	262
Total	2,249	3,913	2,212	1,180	7,281	24,085	6,307	10,941	34,729	116,182

Source: Adapted from U.S. Department of Labor, "National Matrix Tape," proportions applied to 1989 employment data in the model.

Table A-24
Estimated Percentage Distribution of U.S. Employment by State and Sector

State	Sector Agr., For., & Fish. 1	Mining & Quarrying 2	Food, Bev., and Tob. 310	Textiles 321	Wearing Apparel 322	Leather Prod. 323	Footwear 324	Wood Prod. 331	Furn. & Fixt. 332	Paper & Paper Prod. 341
Alabama	2.43	0.38	1.99	3.25	2.24	1.84	0.01	0.73	0.86	1.48
Alaska	3.74	1.10	2.76	0.06	0.31	0.06	0.00	0.18	0.18	0.55
Arizona	2.13	0.79	0.86	0.25	0.47	0.24	0.01	0.27	0.51	0.13
Arkansas	5.94	0.26	4.09	0.53	1.04	0.73	0.73	0.88	1.23	1.26
California	2.40	0.13	1.83	0.40	0.83	0.55	0.06	0.30	0.52	0.34
Colorado	2.16	0.91	1.75	0.14	0.49	0.22	0.06	0.19	0.34	0.19
Connecticut	0.71	0.06	1.37	0.79	0.68	0.46	0.04	0.19	0.38	0.65
Delaware	1.68	0.00	5.12	1.13	0.98	0.74	0.00	0.31	0.27	0.23
District of Columbia	0.24	0.03	0.38	0.10	0.21	0.00	0.00	0.03	0.10	0.10
Florida	2.70	0.13	1.54	0.40	0.89	0.49	0.13	0.20	0.33	0.45
Georgia	2.67	0.11	2.67	5.30	1.98	1.66	0.09	0.46	0.51	1.20
Hawaii	2.40	0.02	3.85	0.20	0.88	0.44	0.05	0.07	0.10	0.07
Idaho	7.57	0.58	4.13	0.37	0.42	0.11	0.00	1.18	0.95	0.26
Illinois	1.63	0.22	2.43	0.25	0.61	0.37	0.09	0.22	0.34	0.52
Indiana	2.04	0.15	1.93	0.19	0.50	0.30	0.09	0.36	0.60	0.52
Iowa	7.64	0.10	4.02	0.22	0.51	0.25	0.01	0.18	0.27	0.29
Kansas	4.50	0.47	2.29	0.16	0.62	0.31	0.04	0.23	0.19	0.36
Kentucky	3.29	1.41	2.84	0.69	1.33	1.13	0.34	0.39	0.45	0.49
Louisiana	2.58	1.68	2.28	0.30	0.81	0.45	0.01	0.34	0.37	0.86
Maine	4.04	0.00	2.33	2.30	0.84	0.77	4.18	1.04	0.77	4.86
Maryland	1.19	0.03	1.33	0.23	0.72	0.44	0.10	0.16	0.19	0.46
Massachusetts	0.72	0.01	1.31	1.35	1.24	0.94	0.51	0.16	0.44	0.79
Michigan	1.26	0.10	1.73	0.20	0.54	0.15	0.09	0.16	0.40	0.58
Minnesota	4.40	0.30	2.70	0.25	0.45	0.26	0.06	0.35	0.48	0.66
Mississippi	4.19	0.63	2.28	0.77	2.78	2.48	0.23	1.02	1.35	0.73
Missouri	2.98	0.16	2.54	0.19	0.99	0.69	1.07	0.29	0.40	0.55
Montana	8.30	0.77	1.18	0.22	0.41	0.03	0.03	0.86	0.93	0.16
Nebraska	7.58	0.07	3.38	0.18	0.51	0.16	0.01	0.18	0.28	0.16
Nevada	1.00	0.37	0.55	0.26	0.42	0.13	0.00	0.18	0.24	0.05
New Hampshire	1.40	0.00	0.83	0.95	0.48	0.64	2.19	0.57	1.09	1.24
New Jersey	0.55	0.04	2.31	0.87	1.26	0.88	0.09	0.17	0.28	0.78
New Mexico	2.87	1.94	0.91	0.32	0.46	0.32	0.00	0.32	0.36	0.02
New York	0.83	0.04	1.54	0.73	1.53	1.23	0.17	0.18	0.25	0.54
North Carolina	3.13	0.06	2.65	10.52	1.75	1.46	0.18	0.55	1.51	0.84
North Dakota	10.91	0.79	1.47	0.23	0.49	0.00	0.00	0.08	0.11	0.04
Ohio	1.38	0.22	2.02	0.26	0.46	0.28	0.10	0.18	0.37	0.78
Oklahoma	2.53	1.76	1.54	0.35	0.81	0.41	0.02	0.14	0.32	0.31
Oregon	5.13	0.08	1.98	0.29	0.44	0.16	0.03	2.56	2.74	0.72
Pennsylvania	1.18	0.35	2.37	1.06	1.67	1.35	0.29	0.26	0.46	0.75
Rhode Island	0.48	0.00	0.99	4.41	0.92	1.28	0.19	0.87	0.24	0.43
South Carolina	2.38	0.07	1.64	11.75	2.00	1.63	0.02	0.36	0.53	0.87
South Dakota	10.41	0.29	3.01	0.22	0.61	0.25	0.04	0.32	0.36	0.11
Tennessee	2.10	0.18	2.55	1.76	2.21	2.06	0.99	0.43	0.79	0.76
Texas	2.12	1.11	1.97	0.26	0.95	0.62	0.08	0.23	0.34	0.32
Utah	1.64	1.01	1.45	0.28	0.86	0.54	0.00	0.19	0.28	0.05
Vermont	3.83	0.05	1.75	0.65	0.74	0.60	0.18	0.51	0.88	0.65
Virginia	1.98	0.43	2.17	2.30	1.14	0.89	0.14	0.35	0.68	0.61
Washington	4.00	0.06	1.87	0.23	0.55	0.19	0.01	0.90	0.97	1.01
West Virginia	1.27	3.43	1.92	0.22	0.67	0.57	0.30	0.33	0.36	0.36
Wisconsin	3.56	0.04	3.08	0.45	0.49	0.41	0.26	0.52	0.73	2.18
Wyoming	3.20	5.13	0.66	0.09	0.42	0.09	0.00	0.14	0.28	0.00
Total	2.32	0.36	2.06	1.13	1.01	0.72	0.19	0.34	0.51	0.63

Source: Adapted from U.S. Department of Labor, "National Matrix Tape."

Table A-24, Continued
Estimated Percentage Distribution of U.S. Employment by State and Sector

State	Sector									
	Print & Publ. 342	Chemicals 35A	Petrol. & Rel. Products 35B	Rubber Products 355	Nonmetal Min. Products 36A	Glass & Glass Products 362	Iron & Steel 371	Nonferrous Metals 372	Metal Products 381	Nonelectrical Machinery 382
Alabama	0.96	1.17	0.47	1.18	0.53	0.14	1.22	1.07	2.62	0.97
Alaska	0.92	0.12	0.12	0.25	0.12	0.00	0.00	0.00	0.18	0.31
Arizona	1.35	0.46	0.04	0.50	0.29	0.05	0.26	0.39	2.82	1.88
Arkansas	1.51	0.98	0.22	0.90	0.43	0.08	0.24	0.90	3.26	1.27
California	1.68	0.91	0.41	0.73	0.29	0.20	0.23	0.43	2.62	2.55
Colorado	1.59	0.85	0.34	0.66	0.52	0.13	0.27	0.24	1.56	2.14
Connecticut	2.12	2.07	0.19	0.84	0.18	0.16	0.59	0.90	5.20	2.87
Delaware	1.13	5.28	0.70	1.84	0.12	0.16	0.27	0.16	1.45	0.70
District of Columbia	2.70	0.07	0.00	0.10	0.03	0.00	0.00	0.07	0.17	0.62
Florida	1.45	0.75	0.08	0.54	0.28	0.13	0.08	0.22	1.38	0.99
Georgia	1.24	1.03	0.17	0.85	0.37	0.20	0.29	0.43	1.88	0.96
Hawaii	0.83	0.22	0.07	0.49	0.20	0.02	0.00	0.15	0.42	0.47
Idaho	1.10	0.71	0.05	0.63	0.39	0.03	0.05	0.18	0.89	1.18
Illinois	2.95	1.60	0.67	0.80	0.28	0.27	0.78	0.76	4.06	2.62
Indiana	1.71	2.20	1.06	0.73	0.35	0.50	1.53	1.22	5.13	1.77
Iowa	1.84	0.91	0.06	0.76	0.38	0.02	0.29	0.71	2.97	2.48
Kansas	1.95	0.91	0.56	0.94	0.53	0.06	0.36	0.21	1.91	1.36
Kentucky	1.55	1.31	0.41	0.92	0.36	0.22	0.32	0.81	3.01	1.82
Louisiana	0.79	1.30	0.93	1.19	0.20	0.13	0.16	0.43	1.07	0.77
Maine	1.51	0.52	0.02	0.61	0.18	0.02	0.14	0.14	2.17	0.86
Maryland	2.12	0.84	0.43	0.53	0.30	0.13	0.38	0.23	1.51	1.24
Massachusetts	2.34	1.67	0.13	0.83	0.16	0.11	0.27	0.41	3.58	3.72
Michigan	1.42	1.45	0.29	0.74	0.23	0.22	1.00	0.78	3.51	2.26
Minnesota	2.24	1.06	0.16	0.50	0.21	0.11	0.22	0.30	2.98	3.75
Mississippi	1.10	0.77	0.23	0.74	0.38	0.23	0.18	0.36	2.75	1.00
Missouri	1.94	1.50	0.24	0.85	0.49	0.08	0.45	0.49	2.80	1.31
Montana	1.08	0.13	0.22	0.35	0.32	0.03	0.10	0.45	0.57	0.41
Nebraska	1.58	0.79	0.10	0.60	0.20	0.04	0.09	0.15	1.71	1.27
Nevada	1.02	0.29	0.08	0.52	0.39	0.08	0.10	0.13	0.84	0.60
New Hampshire	2.14	1.36	0.14	0.83	0.26	0.29	0.59	0.40	4.35	4.04
New Jersey	2.54	3.82	0.51	1.14	0.24	0.59	0.32	0.57	2.76	1.71
New Mexico	1.13	0.24	0.20	0.71	0.30	0.00	0.06	0.04	0.65	0.83
New York	2.69	1.78	0.18	0.63	0.18	0.22	0.27	0.37	2.33	2.03
North Carolina	1.16	1.42	0.11	0.84	0.23	0.34	0.10	0.29	3.24	1.32
North Dakota	0.94	0.11	0.30	0.38	0.08	0.00	0.04	0.00	0.71	0.98
Ohio	1.88	1.80	0.85	1.17	0.61	0.60	1.46	1.15	5.19	2.28
Oklahoma	1.21	0.41	1.09	1.19	0.41	0.51	0.25	0.25	2.37	1.78
Oregon	1.26	0.37	0.16	0.44	0.25	0.05	0.69	0.41	2.01	0.93
Pennsylvania	1.88	1.49	1.18	0.85	0.53	0.65	1.50	0.74	4.56	1.69
Rhode Island	2.41	1.71	0.19	1.38	0.07	0.46	0.75	1.21	5.50	2.39
South Carolina	1.04	2.38	0.16	1.12	0.36	0.43	0.18	0.32	2.55	1.32
South Dakota	0.72	0.18	0.00	0.54	0.22	0.04	0.00	0.00	1.11	1.47
Tennessee	1.56	2.31	0.13	1.15	0.32	0.37	0.34	0.73	2.79	1.35
Texas	1.28	1.24	1.03	1.03	0.45	0.12	0.37	0.45	2.23	1.72
Utah	1.49	0.72	0.59	0.70	0.51	0.09	0.72	0.31	2.26	2.19
Vermont	1.89	0.92	0.28	0.97	0.28	0.05	0.05	0.28	4.48	2.63
Virginia	1.57	1.34	0.11	0.70	0.33	0.14	0.28	0.35	1.61	0.98
Washington	1.40	0.41	0.16	0.57	0.24	0.13	0.23	0.71	1.44	0.93
West Virginia	0.79	1.98	0.72	1.48	0.42	1.97	0.87	1.13	2.06	0.73
Wisconsin	2.25	1.17	0.14	0.53	0.36	0.07	1.18	0.86	4.66	2.76
Wyoming	1.08	0.14	1.03	0.52	0.05	0.00	0.05	0.05	0.61	0.56
Total	1.78	1.36	0.44	0.81	0.33	0.26	0.51	0.54	2.87	1.88

Source: Adapted from U.S. Department of Labor, "National Matrix Tape."

Table A-24, Continued
Estimated Percentage Distribution of U.S. Employment by State and Sector

State	Sector									Total
	Electrical Machinery 383	Transport. Equipment 384	Misc. Manufacturing 38A	Elect., Gas & Water 4	Construction 5	Wholesale & Retail Trade 6	Transp., Stor., & Comm. 7	Fin., Ins., & Real Est. 8	Comm., Soc., Pers. Serv. 9	
Alabama	1.32	2.51	1.76	1.62	7.38	19.25	4.51	6.85	29.24	100.00
Alaska	0.18	0.18	0.55	1.53	8.58	18.87	8.70	9.68	40.69	100.00
Arizona	2.55	2.19	1.46	1.49	9.36	22.85	4.39	10.13	31.89	100.00
Arkansas	1.77	1.79	2.46	1.23	7.08	20.02	5.38	6.31	27.47	100.00
California	2.40	3.59	1.83	0.77	5.80	21.80	5.41	10.96	30.04	100.00
Colorado	1.35	1.28	2.13	1.18	9.00	22.63	6.33	10.97	30.37	100.00
Connecticut	3.46	7.52	2.57	0.81	4.55	17.66	3.97	11.56	27.44	100.00
Delaware	0.86	3.09	1.48	0.74	6.37	22.51	4.73	7.23	30.72	100.00
District of Columbia	0.24	0.14	0.48	0.55	3.53	13.73	5.22	11.86	59.30	100.00
Florida	1.18	1.74	1.36	1.07	8.45	24.92	6.22	11.11	30.82	100.00
Georgia	1.13	2.24	1.57	1.25	6.39	20.81	5.85	8.05	28.64	100.00
Hawaii	0.15	1.10	0.61	0.81	7.43	29.67	6.77	9.93	32.52	100.00
Idaho	0.32	0.95	1.00	0.92	7.97	22.82	6.94	9.36	28.85	100.00
Illinois	2.72	3.48	2.38	0.78	4.81	20.57	6.08	10.30	27.38	100.00
Indiana	4.06	5.90	2.70	1.12	5.16	20.07	4.82	6.95	26.34	100.00
Iowa	1.42	2.71	1.95	0.82	5.84	21.45	6.20	7.41	28.28	100.00
Kansas	0.92	5.89	1.47	0.99	6.66	20.93	7.39	8.33	29.48	100.00
Kentucky	2.18	2.42	1.39	1.29	7.24	20.46	5.16	8.15	28.63	100.00
Louisiana	0.66	2.08	1.12	1.18	11.34	21.70	5.59	10.68	28.99	100.00
Maine	1.08	2.96	1.24	0.93	5.44	20.96	4.74	6.30	29.04	100.00
Maryland	1.70	1.43	1.47	0.88	6.73	18.73	5.37	10.01	41.11	100.00
Massachusetts	2.78	2.42	2.96	0.72	4.45	18.34	4.50	9.94	33.22	100.00
Michigan	1.37	13.76	1.44	0.94	4.20	20.07	4.11	7.70	29.30	100.00
Minnesota	1.71	1.71	1.95	0.77	5.56	22.25	6.03	8.92	29.66	100.00
Mississippi	1.27	3.21	1.83	1.07	8.07	19.05	4.71	6.84	29.75	100.00
Missouri	1.71	3.88	1.80	0.91	5.71	21.70	6.55	8.14	29.59	100.00
Montana	0.38	0.19	0.86	1.37	7.98	21.92	9.06	8.17	33.54	100.00
Nebraska	1.18	1.58	2.00	1.55	6.46	21.32	8.56	8.55	29.76	100.00
Nevada	0.81	0.52	0.81	1.08	8.11	35.83	5.95	8.47	31.16	100.00
New Hampshire	3.61	2.85	3.61	0.86	6.02	19.26	4.09	8.25	27.67	100.00
New Jersey	2.32	1.99	2.55	0.85	4.79	19.80	5.98	11.48	28.80	100.00
New Mexico	0.77	1.03	0.89	1.72	10.50	21.17	5.33	11.12	35.75	100.00
New York	1.86	2.10	2.36	0.86	3.72	19.22	6.20	12.45	33.51	100.00
North Carolina	1.55	1.34	2.61	1.11	6.18	18.70	4.08	6.18	26.52	100.00
North Dakota	0.19	1.02	1.17	1.62	8.31	23.81	7.45	8.13	30.66	100.00
Ohio	2.86	5.69	2.26	0.98	4.78	19.99	4.63	7.75	28.03	100.00
Oklahoma	1.22	2.97	1.54	1.15	9.04	20.97	5.83	9.42	30.19	100.00
Oregon	1.40	1.63	1.86	1.01	6.50	22.86	5.24	9.33	29.48	100.00
Pennsylvania	2.91	2.90	1.73	1.06	5.16	19.45	5.07	8.10	28.80	100.00
Rhode Island	2.51	4.10	2.97	0.58	4.34	18.82	3.40	8.18	29.14	100.00
South Carolina	1.65	1.99	1.67	1.33	7.69	18.70	3.58	6.60	25.68	100.00
South Dakota	0.68	1.08	1.18	1.04	7.00	22.57	8.04	7.07	31.36	100.00
Tennessee	1.68	2.30	2.21	2.07	6.17	19.95	4.96	7.46	28.32	100.00
Texas	1.52	2.50	1.65	1.14	9.77	21.83	5.52	10.33	27.79	100.00
Utah	1.49	2.22	1.68	1.36	8.02	22.05	5.44	9.09	32.80	100.00
Vermont	2.72	1.98	1.38	0.97	7.38	19.66	5.54	6.14	32.58	100.00
Virginia	1.09	2.49	1.63	0.81	7.54	18.81	4.57	9.56	35.39	100.00
Washington	0.65	7.11	1.19	1.17	6.89	22.59	5.60	9.72	29.06	100.00
West Virginia	1.28	1.12	0.98	1.76	10.83	18.95	5.36	8.56	29.57	100.00
Wisconsin	2.73	4.25	1.89	0.86	4.50	20.46	5.32	6.86	27.44	100.00
Wyoming	0.33	0.28	0.80	1.60	15.33	21.50	9.08	11.24	25.68	100.00
Total	1.94	3.37	1.90	1.02	6.27	20.73	5.43	9.42	29.89	100.00

Source: Adapted from U.S. Department of Labor, "National Matrix Tape."

Table A-25

Change in U.S. Employment by Sector and Region due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.

(Number of Workers)

Sector	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1 Agr., For., & Fish.	-67	-143	-329	-423	-380	-168	-270	-151	-419	-2349
2 Min. & Quarry.	-14	-244	-331	-211	-503	-386	-1371	-613	-201	-3874
310 Food, Bev., and Tob	-23	-91	-116	-64	-95	-41	-64	-21	-81	-597
321 Textiles	612	1006	343	118	4705	744	228	86	379	8221
322 Wearing Apparel	131	572	228	119	488	291	224	60	259	2373
323 Leather Prod.	-15	-62	-18	-9	-51	-35	-19	-4	-22	-236
324 Footwear	-5	-4	-2	-3	-2	-3	-1	0	-1	-22
331 Wood Prod.	12	20	29	13	34	22	19	11	50	210
332 Furn. & Fixt.	44	78	123	41	147	73	66	34	162	769
341 Paper & Paper Prod.	149	248	346	80	257	123	119	15	154	1491
342 Print & Publ.	46	139	140	53	84	28	45	24	83	644
35A Chemicals	367	1317	1175	316	790	348	452	106	438	5308
35B Petrol. & Rel. Prod.	-1	-14	-17	-3	-5	-3	-15	-2	-8	-66
355 Rubber Prod.	56	145	173	62	139	69	124	34	110	912
36A Nonmetal Min. Prod.	13	66	92	38	65	31	56	26	55	442
362 Glass & Glass Prod.	-102	-802	-738	-62	-526	-170	-205	-39	-291	-2935
371 Iron & Steel	-4	-21	-40	-4	-7	-6	-6	-2	-7	-98
372 Nonferrous Metals	-378	-984	-1979	-337	-612	-531	-547	-149	-758	-6275
381 Metal Prod.	139	292	475	114	181	96	130	47	198	1673
382 Nonelec. Mach.	1556	2531	3694	1408	1484	656	1355	672	2638	15993
383 Elec. Mach.	-1156	-2558	-3390	-766	-1475	-674	-987	-470	-2037	-13514
384 Transp. Equip.	-1359	-2231	-7291	-1400	-1747	-892	-1502	-413	-3286	-20121
38A Misc. Manuf.	1066	2395	2658	948	1810	733	1141	496	1683	12931
4 Elec., Gas & Water	1	4	4	2	5	2	3	2	3	26
5 Construction	94	239	291	160	403	141	341	157	301	2128
6 Whole. & Ret. Trade	9	27	32	15	29	10	19	10	28	178
7 Transp., Stor., & Comm.	36	135	134	77	121	42	84	44	117	789
8 Fin., Ins., & Real Est.	-80	-249	-217	-92	-207	-62	-147	-73	-222	-1350
9 Comm., Soc., & Pers. Serv.	-157	-440	-453	-204	-457	-151	-259	-141	-389	-2652
Total	969	1371	-4984	-16	4675	289	-988	-252	-1063	0

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Table A-26

Change in U.S. Employment by Sector and Region
due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican
Bilateral Import Quota Limits, Scenario C.
(Number of Workers)

Sector	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1 Agr., For., & Fish.	64	135	312	401	360	159	256	143	397	2226
2 Min. & Quarry	-17	-283	-385	-245	-585	-448	-1593	-712	-234	-4502
310 Food, Bev., and Tob.	-18	-71	-90	-50	-74	-32	-50	-16	-63	-465
321 Textiles	607	999	341	117	4670	739	226	85	376	8160
322 Wearing Apparel	123	539	215	112	459	274	211	56	244	2234
323 Leather Prod.	-17	-70	-20	-10	-58	-40	-22	-4	-25	-266
324 Footwear	-12	-8	-5	-6	-5	-7	-3	0	-2	-48
331 Wood Prod.	7	11	16	7	19	12	11	6	28	118
332 Furn. & Fixt.	38	67	105	35	126	62	57	29	139	658
341 Paper & Paper Prod.	136	227	317	73	236	112	109	14	142	1368
342 Print & Publ.	41	123	124	47	74	25	40	22	74	571
35A Chemicals	357	1283	1145	308	770	339	440	103	426	5172
35B Petrol. & Rel. Prod.	-2	-17	-21	-3	-6	-3	-18	-2	-9	-82
355 Rubber Prod.	57	148	177	63	142	70	127	34	113	932
36A Nonmetal Min. Prod.	12	60	84	34	60	29	52	24	50	405
362 Glass & Glass Prod.	-108	-845	-777	-66	-554	-179	-216	-41	-307	-3093
371 Iron & Steel	-4	-18	-35	-4	-6	-5	-5	-2	-6	-86
372 Nonferrous Metals	-402	-1047	-2106	-358	-651	-565	-582	-159	-806	-6676
381 Metal Prod.	143	299	488	117	186	98	133	49	203	1716
382 Nonelec. Mach.	1540	2506	3657	1394	1469	650	1341	665	2612	15833
383 Elec. Mach.	-1305	-2887	-3825	-864	-1664	-760	-1114	-530	-2299	-15250
384 Transp. Equip.	-1174	-1928	-6300	-1210	-1510	-770	-1298	-357	-2840	-17387
38A Misc. Manuf.	967	2172	2411	860	1642	665	1035	450	1527	11729
4 Elec., Gas & Water	-5	-17	-20	-9	-20	-11	-14	-8	-15	-119
5 Construction	85	215	262	144	362	127	306	141	270	1912
6 Whole. & Ret. Trade	-26	-75	-90	-41	-80	-28	-54	-29	-78	-501
7 Transp., Stor., & Comm.	28	102	102	58	92	32	63	33	88	598
8 Fin., Ins., & Real Est.	-108	-337	-293	-125	-280	-84	-199	-98	-300	-1826
9 Comm., Soc., & Pers. Serv.	-198	-553	-569	-257	-574	-190	-326	-177	-489	-3333
Total	810	731	-4783	522	4599	271	-1087	-281	-783	0

Table A-27

Change in U.S. Employment by Sector and Region due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

Sector	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
1 Agr., For., & Fish.	22	47	109	140	126	55	89	50	138	776
2 Min. & Quarry.	-7	-126	-172	-110	-261	-200	-711	-318	-104	-2010
310 Food, Bev., and Tob	-15	-62	-79	-44	-64	-28	-43	-14	-55	-404
321 Textiles	632	1040	355	121	4861	769	236	89	392	8494
322 Wearing Apparel	199	870	347	181	743	443	341	91	395	3610
323 Leather Prod.	-2	-10	-3	-1	-8	-6	-3	-1	-4	-38
324 Footwear	33	22	15	18	15	20	9	1	5	139
331 Wood Prod.	-7	-11	-15	-7	-18	-12	-10	-6	-27	-113
332 Furn. & Fixt.	94	168	263	88	316	156	142	74	349	1652
341 Paper & Paper Prod.	158	263	367	85	273	130	127	16	164	1584
342 Print & Publ.	35	105	106	40	63	21	34	18	63	487
35A Chemicals	317	1140	1017	273	684	301	391	92	379	4595
35B Petrol. & Rel. Prod.	-1	-9	-11	-2	-3	-2	-10	-1	-5	-43
355 Rubber Prod.	8	21	25	9	20	10	18	5	16	130
36A Nonmetal Min. Prod.	4	21	30	12	21	10	18	9	18	144
362 Glass & Glass Prod.	-163	-1279	-1176	-99	-838	-270	-327	-62	-465	-4680
371 Iron & Steel	-83	-388	-762	-82	-133	-116	-115	-46	-135	-1860
372 Nonferrous Metals	-282	-734	-1476	-251	-456	-396	-408	-111	-565	-4679
381 Metal Prod.	38	79	129	31	49	26	35	13	54	455
382 Nonelec. Mach.	725	1180	1722	656	692	306	632	313	1230	7456
383 Elec. Mach.	240	532	704	159	307	140	205	98	423	2808
384 Transp. Equip.	-1711	-2810	-9183	-1764	-2201	-1123	-1892	-520	-4139	-25341
38A Misc. Manuf.	946	2125	2358	842	1606	651	1013	440	1494	11474
4 Elec., Gas & Water	-5	-15	-17	-8	-18	-10	-12	-7	-13	-105
5 Construction	32	81	99	54	137	48	116	53	102	722
6 Whole. & Ret. Trade	-56	-161	-193	-88	-173	-60	-116	-61	-168	-1075
7 Transp., Stor., & Comm.	4	16	16	9	15	5	10	5	14	94
8 Fin., Ins., & Real Est.	-48	-149	-130	-55	-124	-37	-88	-43	-133	-806
9 Comm., Soc., & Pers. Serv.	-206	-575	-592	-267	-597	-197	-339	-184	-508	-3465
Total	903	1382	-6145	-57	5033	636	-659	-7	-1085	0

Table A-28, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod
Montana	-22	-30	0	6	6	0	0	2	5	1
Nebraska	-43	-6	-3	10	16	0	0	1	3	3
Nevada	-3	-18	0	9	7	0	0	0	1	0
New Hampshire	-5	0	0	33	9	-1	-1	2	7	13
New Jersey	-15	-17	-9	233	186	-9	0	4	14	63
New Mexico	-12	-120	-1	13	11	-1	0	1	3	0
New York	-49	-37	-13	437	503	-28	-1	9	29	97
North Carolina	-66	-19	-8	2228	204	-12	0	9	62	54
North Dakota	-24	-26	0	5	6	0	0	0	0	0
Ohio	-51	-119	-11	95	94	-4	0	5	27	88
Oklahoma	-26	-272	-2	36	47	-2	0	1	6	10
Oregon	-47	-12	-3	27	22	-1	0	19	49	20
Pennsylvania	-47	-208	-14	425	370	-21	-1	8	36	91
Rhode Island	-2	0	-1	154	18	-2	0	2	2	5
South Carolina	-25	-12	-3	1248	117	-7	0	3	11	28
South Dakota	-24	-10	-1	5	8	0	0	1	2	1
Tennessee	-33	-42	-6	275	190	-12	-2	5	24	36
Texas	-108	-843	-15	135	268	-12	0	9	34	50
Utah	-8	-72	-1	14	23	-1	0	1	3	1
Vermont	-7	-2	0	11	7	0	0	1	3	4
Virginia	-38	-123	-6	440	120	-7	0	5	25	36
Washington	-59	-14	-4	34	44	-1	0	11	27	45
West Virginia	-7	-285	-2	13	21	-1	0	1	4	6
Wisconsin	-61	-10	-8	77	46	-3	0	7	24	113
Wyoming	-6	-136	0	2	4	0	0	0	1	0
Total	-1829	-4154	-239	8951	4390	-221	-16	211	772	1512

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Table A-28, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Alabama	5	71	-1	21	11	-25	-9	-201	22	126
Alaska	1	1	0	0	0	0	0	0	0	4
Arizona	6	20	0	6	4	-6	-1	-54	18	179
Arkansas	5	34	0	9	5	-8	-1	-96	16	93
California	66	387	-7	89	41	-255	-11	-565	157	2322
Colorado	8	46	-1	10	9	-21	-2	-40	12	248
Connecticut	11	121	0	14	4	-28	-4	-162	43	359
Delaware	1	56	0	6	0	-5	0	-5	2	16
District of Columbia	3	1	0	0	0	0	0	-3	0	16
Florida	21	119	-1	25	14	-62	-1	-108	31	333
Georgia	11	96	-1	23	11	-56	-3	-124	25	192
Hawaii	1	4	0	2	1	-1	0	-8	1	17
Idaho	2	11	0	3	2	-1	0	-9	2	40
Illinois	55	323	-6	46	19	-161	-18	-472	115	1128
Indiana	15	207	-4	20	11	-137	-17	-353	68	357
Iowa	9	47	0	11	7	-4	-2	-114	22	276
Kansas	8	39	-1	12	7	-7	-2	-28	11	125
Kentucky	8	72	-1	14	7	-35	-2	-138	23	214
Lousiana	5	85	-3	22	4	-25	-1	-85	10	107
Maine	3	9	0	3	1	-1	0	-7	6	33
Maryland	15	66	-1	12	8	-30	-3	-55	16	207
Massachusetts	23	176	-1	25	5	-34	-3	-132	53	840
Michigan	20	221	-2	32	11	-98	-18	-368	75	738
Minnesota	16	80	-1	11	5	-25	-2	-71	32	606
Missippi	4	29	0	8	5	-25	-1	-41	14	79
Missouri	15	125	-1	20	13	-21	-4	-125	33	233

Table A-28, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Montana	1	1	0	1	1	-1	0	-19	1	12
Nebraska	4	23	0	5	2	-4	0	-12	7	77
Nevada	1	5	0	2	2	-4	0	-7	2	20
New Hampshire	3	23	0	4	1	-15	-1	-21	11	150
New Jersey	31	503	-3	43	11	-229	-5	-233	51	482
New Mexico	2	5	0	4	2	0	0	-3	2	37
New York	73	523	-2	53	17	-190	-9	-339	96	1279
North Carolina	11	148	0	25	8	-105	-1	-93	47	295
North Dakota	1	1	0	1	0	0	0	-1	1	23
Ohio	32	329	-6	61	36	-319	-31	-647	133	889
Oklahoma	6	21	-2	18	7	-78	-1	-40	17	195
Oregon	5	17	0	6	4	-6	-4	-57	13	90
Pennsylvania	34	295	-10	48	34	-378	-34	-454	126	713
Rhode Island	4	29	0	7	0	-23	-1	-64	13	88
South Carolina	5	125	0	17	6	-65	-1	-51	19	148
South Dakota	1	2	0	2	1	-1	0	0	2	36
Tennessee	11	177	0	25	8	-82	-3	-174	30	222
Texas	30	313	-11	74	37	-92	-11	-349	79	929
Utah	3	17	-1	5	4	-6	-2	-23	7	110
Vermont	2	8	0	2	1	-1	0	-7	6	50
Virginia	14	127	0	19	10	-39	-3	-102	21	199
Washington	9	30	0	12	6	-28	-2	-160	15	145
West Virginia	2	55	-1	12	4	-160	-3	-97	8	44
Wisconsin	18	98	0	13	10	-18	-12	-223	55	498
Wyoming	1	1	0	1	0	0	0	-1	1	10
Total	638	5322	-72	905	419	-2917	-233	-6541	1566	15631

Table A-28, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Alabama	-155	-236	184	-1	37	-3	9	-18	-43	318
Alaska	-2	-2	6	0	5	0	2	-3	-7	-17
Arizona	-219	-151	112	-1	34	-2	6	-20	-35	-170
Arkansas	-118	-96	146	-1	20	-2	6	-10	-23	29
California	-1973	-2372	1341	-4	203	-21	75	-203	-311	-524
Colorado	-141	-108	198	-1	40	-3	11	-26	-40	86
Connecticut	-390	-681	258	-1	22	-2	8	-29	-39	-347
Delaware	-17	-50	27	0	6	-1	2	-3	-8	58
District of Columbia	-5	-3	10	0	3	0	2	-6	-17	5
Florida	-359	-425	369	-2	109	-9	32	-76	-118	85
Georgia	-204	-324	252	-1	49	-4	18	-33	-65	1063
Hawaii	-5	-29	18	0	10	-1	4	-7	-13	7
Idaho	-10	-23	27	0	10	-1	4	-6	-11	16
Illinois	-1057	-1085	824	-2	79	-9	40	-90	-134	-290
Indiana	-737	-860	437	-1	40	-4	15	-28	-60	-977
Iowa	-142	-218	174	-1	25	-2	10	-17	-36	12
Kansas	-76	-391	108	-1	23	-2	10	-16	-31	-257
Kentucky	-232	-207	132	-1	33	-3	9	-20	-38	-255
Lousiana	-83	-210	126	-1	61	-3	12	-30	-46	-280
Maine	-39	-84	39	0	8	-1	3	-5	-13	102
Maryland	-256	-173	197	-1	43	-3	14	-34	-78	40
Massachusetts	-566	-395	537	-1	39	-4	15	-46	-85	921
Michigan	-405	-3259	379	-2	53	-7	20	-51	-109	-2629
Minnesota	-249	-200	253	-1	34	-4	15	-29	-55	399
Missippi	-91	-184	117	0	25	-2	6	-11	-27	7
Missouri	-274	-500	258	-1	39	-4	18	-29	-60	-201

Table A-28, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Montana	-9	-4	19	0	8	-1	4	-5	-11	-32
Nebraska	-65	-69	98	-1	15	-1	8	-11	-20	35
Nevada	-24	-13	22	0	10	-1	3	-6	-12	-2
New Hampshire	-121	-77	108	0	9	-1	2	-6	-12	115
New Jersey	-589	-407	578	-1	52	-6	26	-66	-92	594
New Mexico	-30	-33	31	0	18	-1	4	-10	-18	-96
New York	-1056	-959	1195	-3	90	-13	59	-159	-240	1360
North Carolina	-312	-217	468	-1	53	-4	14	-28	-67	2691
North Dakota	-4	-17	22	0	7	-1	3	-4	-8	-15
Ohio	-1008	-1607	708	-2	71	-8	27	-62	-124	-1404
Oklahoma	-121	-236	137	-1	38	-2	10	-21	-38	-294
Oregon	-123	-115	146	-1	24	-2	8	-19	-33	27
Pennsylvania	-1111	-888	589	-2	84	-9	33	-70	-138	-499
Rhode Island	-83	-109	87	0	6	-1	2	-6	-12	113
South Carolina	-167	-162	151	-1	33	-2	6	-15	-33	1373
South Dakota	-15	-19	23	0	7	-1	3	-4	-9	8
Tennessee	-248	-273	291	-2	39	-3	12	-25	-53	386
Texas	-741	-975	717	-3	202	-12	45	-113	-170	-533
Utah	-68	-81	68	0	16	-1	4	-9	-19	-17
Vermont	-47	-27	22	0	5	0	2	-2	-7	22
Virginia	-198	-364	266	-1	58	-4	14	-39	-81	348
Washington	-91	-802	149	-1	41	-4	13	-31	-51	-665
West Virginia	-69	-48	47	-1	25	-1	5	-10	-20	-459
Wisconsin	-444	-556	273	-1	31	-4	15	-25	-56	-142
Wyoming	-5	-4	12	0	11	0	3	-4	-5	-116
Total	-14554	-20328	12755	-47	2003	-180	688	-1597	-2834	-2

Table A-29
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.
(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Alabama	-38	-64	-9	368	82	-9	0	7	20	55
Alaska	-7	-21	-1	1	1	0	0	0	1	2
Arizona	-25	-99	-3	21	13	-1	0	2	9	4
Arkansas	-53	-25	-11	34	22	-2	-1	5	17	26
California	-266	-156	-58	316	213	-20	-1	21	85	87
Colorado	-30	-139	-7	15	16	-1	0	2	7	6
Connecticut	-11	-9	-6	86	24	-2	0	2	8	23
Delaware	-5	0	-4	22	6	-1	0	1	1	2
District of Columbia	-1	-1	0	2	2	0	0	0	0	1
Florida	-111	-57	-18	117	85	-7	-1	5	20	43
Georgia	-65	-29	-18	921	111	-13	0	7	19	68
Hawaii	-11	-1	-5	6	9	-1	0	0	1	1
Idaho	-31	-26	-5	11	4	0	0	3	6	3
Illinois	-85	-126	-36	96	74	-6	-1	7	26	64
Indiana	-50	-41	-14	34	29	-2	0	5	22	30
Iowa	-103	-14	-16	21	16	-1	0	2	5	9
Kansas	-50	-57	-7	13	16	-1	0	2	3	9
Kentucky	-47	-217	-12	71	44	-5	-1	3	10	16
Lousiana	-44	-307	-11	37	32	-2	0	3	9	34
Maine	-19	0	-3	79	9	-1	-2	3	5	54
Maryland	-24	-6	-8	34	34	-3	0	2	6	22
Massachusetts	-20	-3	-10	265	79	-8	-2	3	18	51
Michigan	-50	-44	-20	56	50	-2	0	4	24	54
Minnesota	-86	-62	-15	34	21	-2	0	4	14	30
Missippi	-40	-65	-6	53	62	-8	0	6	19	16
Missouri	-65	-38	-16	30	50	-5	-3	4	13	28

Table A-29, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.
(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Montana	-28	-28	-1	5	3	0	0	2	5	1
Nebraska	-56	-6	-7	10	9	0	0	1	3	3
Nevada	-4	-17	-1	8	4	0	0	0	1	0
New Hampshire	-6	0	-1	30	5	-1	-1	2	7	13
New Jersey	-19	-15	-23	214	100	-10	0	4	14	62
New Mexico	-15	-112	-1	12	6	-1	0	1	3	0
New York	-63	-34	-34	402	272	-30	-1	9	29	96
North Carolina	-85	-18	-21	2046	110	-13	-1	9	61	54
North Dakota	-31	-24	-1	4	3	0	0	0	0	0
Ohio	-66	-111	-27	87	51	-4	-1	5	27	87
Oklahoma	-34	-253	-6	33	25	-2	0	1	6	10
Oregon	-61	-11	-7	25	12	-1	0	19	48	20
Pennsylvania	-60	-194	-35	391	200	-22	-2	8	35	90
Rhode Island	-2	0	-1	141	10	-2	0	2	2	5
South Carolina	-32	-11	-6	1147	63	-7	0	3	11	28
South Dakota	-31	-10	-3	5	4	0	0	1	2	1
Tennessee	-42	-39	-15	252	103	-13	-2	5	24	35
Texas	-139	-786	-37	124	145	-13	-1	9	34	49
Utah	-10	-67	-3	13	12	-1	0	1	3	1
Vermont	-9	-2	-1	10	4	0	0	1	3	4
Virginia	-49	-115	-15	404	65	-7	0	5	25	35
Washington	-76	-13	-10	31	24	-1	0	11	27	44
West Virginia	-9	-266	-4	12	11	-1	0	1	4	6
Wisconsin	-78	-9	-19	70	25	-3	-1	7	24	112
Wyoming	-7	-127	0	1	2	0	0	0	1	0
Total	-2349	-3874	-597	8221	2373	-236	-22	210	769	1491

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Table A-29, Continued
Change in U.S. Employment by State and Sector
due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits
Applied to Mexican Exports, Scenario B.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Alabama	5	71	-1	21	11	-26	-4	-193	24	129
Alaska	1	1	0	0	0	0	0	0	0	4
Arizona	6	20	0	6	4	-6	-1	-52	19	183
Arkansas	5	34	0	9	5	-9	0	-92	17	96
California	67	386	-7	90	43	-256	-5	-542	167	2376
Colorado	8	46	-1	10	10	-21	-1	-39	13	254
Connecticut	12	121	0	14	4	-28	-2	-155	46	367
Delaware	1	56	0	6	0	-5	0	-5	2	17
District of Columbia	3	1	0	0	0	0	0	-3	0	16
Florida	21	118	0	25	15	-62	-1	-103	33	341
Georgia	11	96	-1	23	12	-56	-1	-119	26	197
Hawaii	1	4	0	2	1	-1	0	-7	1	17
Idaho	2	11	0	3	2	-1	0	-9	2	41
Illinois	55	322	-5	46	20	-162	-8	-453	122	1154
Indiana	15	206	-4	20	11	-138	-7	-339	72	365
Iowa	9	47	0	11	7	-4	-1	-110	23	282
Kansas	8	39	-1	12	8	-7	-1	-27	12	128
Kentucky	8	72	-1	15	7	-35	-1	-132	25	219
Lousiana	5	85	-2	22	5	-26	-1	-82	10	109
Maine	3	9	0	3	1	-1	0	-7	6	34
Maryland	15	65	-1	12	8	-30	-1	-52	18	211
Massachusetts	23	176	-1	25	6	-34	-1	-127	56	859
Michigan	20	220	-2	33	12	-99	-8	-353	80	755
Minnesota	16	80	0	11	6	-26	-1	-68	34	620
Missippi	4	29	0	8	5	-26	0	-39	15	81
Missouri	15	124	-1	20	14	-21	-2	-120	35	238

Table A-29, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Montana	1	1	0	1	1	-1	0	-18	1	12
Nebraska	4	22	0	5	2	-4	0	-12	7	79
Nevada	2	5	0	2	2	-4	0	-7	2	21
New Hampshire	3	23	0	4	2	-15	-1	-21	11	154
New Jersey	31	501	-3	43	11	-230	-2	-223	54	493
New Mexico	2	5	0	4	2	0	0	-3	2	37
New York	74	522	-2	53	18	-191	-4	-326	103	1308
North Carolina	11	148	0	25	8	-106	-1	-89	51	302
North Dakota	1	1	0	1	0	0	0	-1	1	23
Ohio	32	329	-6	62	38	-321	-13	-620	142	910
Oklahoma	6	21	-2	18	7	-78	-1	-38	18	200
Oregon	5	17	0	6	4	-6	-2	-55	14	92
Pennsylvania	34	294	-9	49	36	-380	-15	-435	135	730
Rhode Island	4	29	0	7	0	-23	-1	-61	14	90
South Carolina	5	124	0	17	6	-66	0	-49	20	151
South Dakota	1	2	0	2	1	-1	0	0	2	37
Tennessee	11	177	0	25	8	-83	-1	-166	32	227
Texas	30	312	-10	75	39	-93	-5	-335	84	950
Utah	3	17	-1	5	4	-6	-1	-22	8	113
Vermont	2	8	0	2	1	-1	0	-7	6	52
Virginia	14	126	0	19	11	-39	-1	-98	23	203
Washington	9	30	0	12	6	-28	-1	-153	16	148
West Virginia	2	55	-1	12	4	-161	-1	-93	9	45
Wisconsin	18	98	0	13	11	-18	-5	-214	59	509
Wyoming	1	1	0	1	0	0	0	-1	1	11
Total	644	5308	-66	912	442	-2935	-98	-6275	1673	15992

Table A-29, Continued
Change in U.S. Employment by State and Sector
due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits
Applied to Mexican Exports, Scenario B.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Alabama	-144	-234	187	1	39	3	10	-15	-40	256
Alaska	-2	-2	7	0	5	0	2	-2	-6	-16
Arizona	-203	-150	113	0	36	2	7	-17	-32	-141
Arkansas	-110	-95	148	0	21	2	7	-8	-22	19
California	-1832	-2348	1360	2	215	20	86	-172	-291	-417
Colorado	-131	-107	201	0	43	3	13	-22	-38	111
Connecticut	-362	-674	262	0	23	2	9	-25	-37	-308
Delaware	-16	-50	27	0	6	1	2	-3	-7	53
District of Columbia	-5	-3	10	0	4	0	2	-5	-16	8
Florida	-333	-420	374	1	116	9	37	-65	-111	72
Georgia	-190	-320	255	1	52	4	20	-28	-61	922
Hawaii	-5	-29	18	0	11	1	4	-6	-12	1
Idaho	-9	-23	28	0	11	1	4	-5	-10	12
Illinois	-982	-1074	835	1	84	9	46	-76	-125	-178
Indiana	-684	-851	443	1	42	4	17	-24	-56	-893
Iowa	-132	-216	176	0	26	2	12	-14	-33	7
Kansas	-71	-387	109	0	25	2	12	-13	-29	-253
Kentucky	-215	-205	134	0	35	2	11	-17	-36	-253
Lousiana	-77	-208	127	1	64	3	14	-26	-43	-267
Maine	-36	-83	40	0	9	1	3	-4	-12	90
Maryland	-238	-171	200	0	46	3	16	-29	-73	54
assachusetts	-525	-391	544	1	41	4	18	-39	-80	928
Michigan	-376	-3225	384	1	56	7	23	-43	-102	-2544
Minnesota	-231	-198	257	0	37	4	17	-25	-51	419
Missippi	-85	-182	118	0	26	2	7	-9	-25	-34
Missouri	-255	-495	261	1	41	4	20	-25	-56	-201

Table A-29, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Montana	-9	-4	19	0	9	1	4	-4	-10	-34
Nebraska	-60	-68	99	0	16	1	9	-9	-19	29
Nevada	-23	-13	22	0	11	1	3	-5	-11	2
New Hampshire	-112	-76	109	0	9	1	3	-5	-11	127
New Jersey	-547	-403	586	1	55	6	29	-56	-86	588
New Mexico	-28	-33	31	0	19	1	4	-8	-17	-87
New York	-980	-949	1211	2	95	12	68	-135	-224	1299
North Carolina	-290	-215	475	1	56	4	16	-24	-63	2454
North Dakota	-4	-17	22	0	8	1	3	-3	-8	-19
Ohio	-936	-1591	718	1	76	8	32	-52	-116	-1261
Oklahoma	-113	-234	139	0	40	2	11	-18	-35	-275
Oregon	-114	-114	148	0	26	2	9	-16	-31	30
Pennsylvania	-1031	-879	597	1	89	8	37	-59	-130	-516
Rhode Island	-77	-108	89	0	6	1	2	-5	-11	109
South Carolina	-155	-160	153	0	35	2	7	-13	-31	1242
South Dakota	-14	-19	23	0	7	1	3	-3	-8	2
Tennessee	-230	-271	295	1	41	3	14	-21	-49	321
Texas	-688	-965	727	2	215	12	52	-96	-159	-465
Utah	-63	-80	69	0	17	1	5	-8	-18	-9
Vermont	-43	-27	22	0	6	0	2	-2	-7	23
Virginia	-184	-360	269	1	62	4	16	-33	-76	304
Washington	-85	-794	152	1	44	4	15	-26	-48	-661
West Virginia	-64	-47	48	0	26	1	6	-9	-19	-434
Wisconsin	-412	-550	277	0	33	4	17	-21	-53	-107
Wyoming	-5	-4	12	0	12	0	3	-4	-5	-107
Total	-13514	-20121	12931	26	2128	178	789	-1350	-2652	-1

Table A-30

Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C.

(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Alabama	36	-75	-7	366	77	-11	0	4	17	50
Alaska	6	-25	-1	1	1	0	0	0	0	2
Arizona	23	-115	-2	20	12	-1	0	1	8	3
Arkansas	51	-29	-8	34	20	-2	-2	3	14	24
California	252	-181	-45	314	201	-22	-2	11	73	80
Colorado	29	-161	-6	15	15	-1	0	1	6	6
Connecticut	10	-10	-5	85	23	-3	0	1	7	21
Delaware	4	0	-3	22	6	-1	0	0	1	1
District of Columbia	1	-1	0	2	1	0	0	0	0	1
Florida	105	-66	-14	116	80	-7	-1	3	17	39
Georgia	61	-34	-14	914	105	-15	-1	4	16	63
Hawaii	10	-1	-4	6	8	-1	0	0	1	1
Idaho	29	-30	-4	11	4	0	0	2	5	2
Illinois	81	-147	-28	95	70	-7	-1	4	23	59
Indiana	47	-47	-11	34	27	-3	-1	3	19	27
Iowa	98	-17	-12	21	15	-1	0	1	5	8
Kansas	48	-66	-6	13	15	-1	0	1	3	9
Kentucky	45	-253	-9	70	42	-6	-1	2	8	15
Lousiana	41	-357	-9	37	30	-3	0	2	8	31
Maine	18	0	-2	78	9	-1	-5	2	5	49
Maryland	23	-7	-6	34	32	-3	-1	1	5	20
Massachusetts	19	-3	-8	263	74	-9	-4	2	15	46
Michigan	47	-51	-15	56	47	-2	-1	2	20	50
Minnesota	82	-72	-12	34	19	-2	0	2	12	28
Missippi	38	-75	-5	53	59	-9	-1	3	17	15
Missouri	61	-44	-12	30	47	-5	-6	2	11	25

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Table A-30, Continued
Change in U.S. Employment by State and Sector
due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican
Bilateral Import Quota Limits, Scenario C
(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Montana	27	-32	-1	5	3	0	0	1	4	1
Nebraska	53	-7	-6	9	8	0	0	0	3	2
Nevada	4	-19	0	8	4	0	0	0	1	0
New Hampshire	6	0	-1	30	5	-1	-2	1	6	12
New Jersey	18	-18	-18	212	94	-11	-1	2	12	57
New Mexico	14	-130	-1	12	6	-1	0	1	3	0
New York	60	-40	-26	399	256	-34	-3	5	25	88
North Carolina	80	-21	-16	2031	104	-14	-1	5	53	49
North Dakota	30	-28	-1	4	3	0	0	0	0	0
Ohio	62	-129	-21	86	48	-5	-1	3	23	79
Oklahoma	32	-294	-5	33	24	-2	0	1	6	9
Oregon	58	-13	-5	24	11	-1	0	10	42	18
Pennsylvania	57	-225	-27	388	188	-25	-4	5	30	82
Rhode Island	2	0	-1	140	9	-2	0	1	1	4
South Carolina	31	-13	-5	1138	60	-8	0	2	9	25
South Dakota	30	-11	-2	5	4	0	0	0	1	1
Tennessee	40	-45	-11	250	97	-15	-5	3	20	32
Texas	132	-913	-29	123	137	-15	-1	5	29	45
Utah	10	-78	-2	13	11	-1	0	0	2	1
Vermont	8	-2	-1	10	4	0	0	0	3	3
Virginia	46	-133	-12	401	61	-8	-1	3	21	32
Washington	72	-15	-8	31	23	-1	0	6	23	41
West Virginia	9	-309	-3	11	11	-1	-1	1	3	6
Wisconsin	74	-11	-15	70	24	-3	-1	4	20	103
Wyoming	7	-147	0	1	2	0	0	0	1	0
Total	2226	-4502	-465	8160	2234	-266	-48	118	658	1368

Table A-30, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Alabama	5	69	-1	21	10	-27	-3	-205	25	128
Alaska	0	1	0	0	0	0	0	0	0	4
Arizona	5	20	0	7	4	-6	0	-55	19	181
Arkansas	4	33	0	9	5	-9	0	-98	17	95
California	59	376	-8	92	39	-270	-4	-577	172	2352
Colorado	7	45	-1	11	9	-22	-1	-41	13	252
Connecticut	10	117	-1	15	3	-30	-1	-165	47	364
Delaware	1	54	0	6	0	-5	0	-5	2	16
District of Columbia	3	1	0	0	0	0	0	-3	0	16
Florida	19	115	-1	25	14	-66	-1	-110	33	338
Georgia	10	94	-1	23	11	-59	-1	-127	27	195
Hawaii	1	4	0	2	1	-1	0	-8	1	17
Idaho	1	11	0	3	2	-1	0	-9	2	41
Illinois	49	314	-6	47	18	-171	-7	-482	126	1142
Indiana	13	201	-5	20	10	-145	-6	-360	74	362
Iowa	8	46	0	12	6	-4	-1	-117	24	280
Kansas	7	38	-1	12	7	-8	-1	-28	13	126
Kentucky	7	70	-1	15	6	-37	-1	-141	25	217
Lousiana	4	83	-3	23	4	-27	0	-87	11	108
Maine	2	9	0	3	1	-1	0	-7	6	34
Maryland	14	64	-2	12	7	-32	-1	-56	18	209
Massachusetts	20	171	-1	26	5	-36	-1	-135	58	850
Michigan	18	215	-2	33	11	-104	-7	-376	82	748
Minnesota	14	78	-1	11	5	-27	-1	-72	35	614
Missippi	3	28	0	8	4	-27	0	-41	16	80
Missouri	13	121	-1	21	13	-22	-2	-128	36	236

Table A-30, Continued
Change in U.S. Employment by State and Sector
due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican
Bilateral Import Quota Limits, Scenario C
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Montana	1	1	0	1	1	-1	0	-19	1	12
Nebraska	4	22	0	5	2	-4	0	-13	7	78
Nevada	1	4	0	2	2	-4	0	-7	2	21
New Hampshire	3	23	0	4	1	-15	0	-22	12	152
New Jersey	28	489	-3	44	10	-243	-2	-238	56	488
New Mexico	2	5	0	4	2	0	0	-3	2	37
New York	65	508	-3	54	17	-202	-3	-346	105	1295
North Carolina	10	144	-1	26	8	-112	0	-94	52	299
North Dakota	1	1	0	1	0	0	0	-1	1	23
Ohio	28	320	-7	63	35	-338	-11	-660	145	901
Oklahoma	5	21	-3	18	7	-82	-1	-41	19	198
Oregon	5	17	0	6	4	-6	-1	-58	14	91
Pennsylvania	31	286	-11	50	33	-401	-13	-463	138	723
Rhode Island	3	29	0	7	0	-24	-1	-65	14	89
South Carolina	4	121	0	17	6	-69	0	-52	21	150
South Dakota	1	2	0	2	1	-1	0	0	2	37
Tennessee	10	172	0	26	8	-87	-1	-177	33	225
Texas	27	304	-12	76	36	-98	-4	-356	86	941
Utah	3	16	-1	5	4	-6	-1	-23	8	112
Vermont	1	8	0	3	1	-1	0	-7	6	51
Virginia	12	123	-1	19	10	-41	-1	-105	23	201
Washington	8	30	-1	12	6	-30	-1	-163	16	146
West Virginia	2	54	-1	12	4	-170	-1	-99	9	44
Wisconsin	16	96	-1	13	10	-19	-4	-228	60	504
Wyoming	1	1	0	1	0	0	0	-1	1	11
Total	571	5172	-82	932	405	-3093	-86	-6676	1716	15833

Table A-30, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Alabama	-162	-202	169	-3	35	-7	8	-21	-51	246
Alaska	-2	-2	6	0	5	-1	2	-3	-8	-12
Arizona	-229	-129	103	-2	33	-6	6	-22	-41	-165
Arkansas	-124	-82	135	-1	19	-4	5	-11	-27	69
California	-2067	-2029	1233	-10	194	-58	65	-232	-366	-358
Colorado	-148	-92	182	-2	38	-8	10	-30	-47	79
Connecticut	-409	-582	238	-1	21	-6	7	-34	-46	-323
Delaware	-18	-43	25	0	5	-1	1	-4	-9	55
District of Columbia	-6	-2	9	0	3	-1	2	-7	-20	-1
Florida	-376	-363	339	-5	104	-24	28	-87	-139	116
Georgia	-214	-277	231	-3	47	-12	15	-37	-76	944
Hawaii	-5	-25	16	0	10	-3	3	-8	-16	10
Idaho	-10	-20	25	0	10	-2	3	-7	-13	54
Illinois	-1108	-928	758	-5	76	-26	35	-103	-158	-281
Indiana	-772	-735	402	-3	38	-12	13	-33	-71	-913
Iowa	-149	-186	160	-1	24	-7	9	-19	-42	160
Kansas	-80	-335	99	-1	22	-6	9	-18	-36	-165
Kentucky	-243	-177	121	-2	31	-7	8	-22	-45	-263
Lousiana	-87	-180	115	-2	58	-9	10	-35	-54	-286
Maine	-40	-72	36	-1	8	-2	2	-6	-15	109
Maryland	-268	-148	181	-2	41	-9	12	-39	-92	7
Massachusetts	-593	-338	494	-2	37	-12	13	-52	-100	800
Michigan	-425	-2787	348	-4	50	-19	18	-59	-128	-2234
Minnesota	-261	-171	233	-2	33	-10	13	-34	-64	485
Missippi	-95	-158	107	-1	23	-4	5	-13	-32	-1
Missouri	-287	-428	237	-2	37	-11	15	-34	-70	-147

Table A-30, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Montana	-10	-3	18	-1	8	-2	3	-5	-12	1
Nebraska	-68	-59	90	-1	14	-4	7	-12	-24	108
Nevada	-26	-11	20	-1	10	-4	3	-7	-14	-9
New Hampshire	-127	-66	99	0	8	-2	2	-7	-14	106
New Jersey	-617	-348	532	-3	49	-16	22	-75	-109	412
New Mexico	-31	-28	28	-1	17	-3	3	-11	-21	-94
New York	-1106	-820	1099	-8	86	-35	52	-182	-282	1022
North Carolina	-327	-186	431	-3	51	-12	12	-32	-79	2454
North Dakota	-5	-15	20	-1	7	-2	2	-4	-10	30
Ohio	-1056	-1375	651	-5	68	-23	24	-70	-146	-1311
Oklahoma	-127	-202	126	-2	36	-7	8	-24	-44	-292
Oregon	-129	-99	134	-1	23	-6	7	-21	-38	83
Pennsylvania	-1164	-760	542	-6	80	-24	28	-80	-163	-704
Rhode Island	-87	-93	80	0	6	-2	2	-7	-14	91
South Carolina	-175	-138	139	-2	32	-6	5	-17	-39	1234
South Dakota	-16	-16	21	0	6	-2	3	-4	-10	52
Tennessee	-260	-234	267	-5	37	-9	11	-28	-62	289
Texas	-776	-834	659	-9	193	-34	39	-130	-200	-578
Utah	-71	-69	63	-1	15	-3	4	-11	-22	-24
Vermont	-49	-23	20	0	5	-1	1	-3	-8	28
Virginia	-208	-311	244	-2	56	-11	12	-45	-96	292
Washington	-95	-686	137	-3	39	-10	12	-35	-61	-506
West Virginia	-72	-41	43	-1	24	-3	4	-12	-23	-502
Wisconsin	-465	-475	251	-2	30	-11	13	-29	-66	-43
Wyoming	-6	-3	11	0	11	-1	2	-5	-6	-121
Total	-15250	-17387	11729	-119	1912	-501	598	-1826	-3333	-2

Table A-31
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Alabama	221	-94	26	531	245	8	0	36	24	70
Alaska	38	-31	4	1	4	0	0	1	1	3
Arizona	142	-144	8	30	38	1	0	10	10	4
Arkansas	308	-37	30	49	65	2	13	25	20	34
California	1530	-227	167	455	636	16	13	104	102	111
Colorado	176	-202	20	22	48	1	2	9	9	8
Connecticut	62	-13	17	124	71	2	1	9	10	30
Delaware	27	-1	12	32	19	1	0	3	1	2
District of Columbia	4	-1	1	3	4	0	0	0	1	1
Florida	637	-83	52	168	253	5	10	26	24	55
Georgia	373	-43	53	1327	332	11	4	35	22	87
Hawaii	61	-1	14	9	27	1	0	1	1	1
Idaho	178	-38	14	16	12	0	0	15	7	3
Illinois	492	-184	105	138	222	5	9	36	32	82
Indiana	287	-59	39	49	85	2	4	28	26	38
Iowa	595	-21	45	31	48	1	0	8	7	12
Kansas	289	-83	21	19	48	1	1	8	4	12
Kentucky	271	-316	34	102	132	4	10	18	12	21
Lousiana	252	-447	32	53	95	2	0	18	11	43
Maine	111	-1	9	114	28	1	39	15	7	69
Maryland	138	-9	22	49	102	2	4	10	7	28
Massachusetts	113	-4	30	382	235	7	27	14	21	65
Michigan	287	-64	57	81	148	2	7	20	29	69
Minnesota	498	-91	44	50	61	1	2	22	17	39
Missippi	232	-94	18	76	186	6	4	30	23	21
Missouri	371	-56	45	43	150	4	46	19	15	36

Table A-31, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

State	Sector 1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Montana	161	-40	3	8	9	0	0	9	6	1
Nebraska	321	-8	21	14	26	0	0	4	4	3
Nevada	23	-24	2	11	12	0	0	2	2	1
New Hampshire	37	-1	3	44	15	1	19	8	9	17
New Jersey	109	-22	65	308	299	8	6	18	17	79
New Mexico	88	-162	4	18	18	0	0	5	3	0
New York	364	-50	97	579	811	25	25	43	34	123
North Carolina	489	-26	59	2950	329	11	10	47	73	69
North Dakota	180	-35	3	6	10	0	0	1	1	0
Ohio	377	-162	79	125	151	4	9	27	32	111
Oklahoma	194	-369	17	48	75	1	0	6	8	12
Oregon	350	-16	19	35	35	1	1	95	58	25
Pennsylvania	348	-282	101	563	596	19	29	42	42	115
Rhode Island	12	-1	4	204	29	2	2	12	2	6
South Carolina	186	-16	18	1653	189	6	0	15	13	35
South Dakota	180	-14	7	7	13	0	0	3	2	1
Tennessee	241	-57	42	364	306	11	39	27	28	45
Texas	801	-1145	106	179	433	11	10	48	40	63
Utah	58	-98	7	18	36	1	0	4	3	1
Vermont	51	-2	3	15	12	0	1	4	4	4
Virginia	280	-167	44	583	194	6	7	27	30	45
Washington	435	-19	29	45	71	1	0	53	33	57
West Virginia	53	-387	11	17	34	1	4	7	5	8
Wisconsin	449	-13	56	101	75	2	11	36	29	143
Wyoming	42	-184	1	2	6	0	0	1	1	0
Total	13524	-5642	1725	11851	7077	198	374	1063	918	1907

Table A-31, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Alabama	8	86	-2	42	13	-17	-19	-406	26	133
Alaska	1	1	0	1	0	0	0	0	0	5
Arizona	8	24	0	13	5	-4	-3	-109	20	188
Arkansas	7	41	0	18	6	-6	-2	-194	18	98
California	94	466	-11	180	52	-168	-25	-1141	182	2442
Colorado	11	56	-1	21	12	-14	-4	-81	14	261
Connecticut	16	146	-1	29	5	-18	-9	-327	49	378
Delaware	2	67	0	11	1	-3	-1	-10	2	17
District of Columbia	4	1	0	1	0	0	0	-6	0	16
Florida	30	143	-1	50	18	-41	-3	-217	35	351
Georgia	15	116	-1	46	14	-37	-7	-251	29	202
Hawaii	2	4	0	5	1	-1	0	-15	1	18
Idaho	2	13	0	6	3	-1	0	-18	2	42
Illinois	77	389	-9	93	24	-106	-40	-954	133	1186
Indiana	21	249	-6	39	14	-90	-37	-713	78	375
Iowa	12	57	0	23	8	-2	-4	-231	25	290
Kansas	11	47	-2	23	9	-5	-4	-56	13	131
Kentucky	11	87	-1	29	8	-23	-5	-278	27	225
Lousiana	7	102	-4	45	5	-17	-3	-172	11	113
Maine	4	11	0	6	1	-1	-1	-15	6	35
Maryland	22	79	-2	24	10	-20	-8	-110	19	217
Massachusetts	32	212	-1	50	7	-22	-7	-267	61	883
Michigan	28	266	-3	65	14	-65	-39	-743	87	776
Minnesota	22	97	-1	22	7	-17	-4	-142	37	637
Missippi	5	34	-1	16	6	-17	-2	-82	17	83
Missouri	21	150	-1	41	17	-14	-10	-253	38	245

Table A-31, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Montana	2	2	0	3	2	-1	0	-37	1	12
Nebraska	6	27	0	10	2	-2	-1	-25	8	81
Nevada	2	6	0	5	3	-2	0	-14	2	22
New Hampshire	5	28	0	8	2	-10	-3	-43	12	158
New Jersey	44	606	-4	87	13	-151	-11	-470	59	506
New Mexico	3	6	0	8	3	0	0	-6	2	38
New York	103	630	-3	106	22	-125	-20	-685	111	1345
North Carolina	16	178	-1	51	10	-70	-3	-187	55	310
North Dakota	1	1	0	2	0	0	0	-1	1	24
Ohio	45	397	-10	123	46	-210	-68	-1306	154	935
Oklahoma	8	25	-4	35	9	-51	-3	-81	20	205
Oregon	7	21	0	12	5	-4	-8	-115	15	95
Pennsylvania	48	355	-15	98	44	-249	-75	-916	146	750
Rhode Island	5	35	0	14	0	-15	-3	-129	15	92
South Carolina	7	150	-1	34	8	-43	-2	-103	22	156
South Dakota	1	3	0	4	1	-1	0	-1	2	38
Tennessee	16	213	-1	51	10	-54	-7	-350	35	233
Texas	42	377	-17	150	48	-61	-24	-705	91	976
Utah	5	20	-1	10	5	-4	-4	-46	9	116
Vermont	2	10	0	5	1	-1	0	-15	7	53
Virginia	19	152	-1	38	13	-26	-7	-207	25	209
Washington	13	37	-1	24	7	-18	-4	-323	17	152
West Virginia	3	66	-1	24	5	-106	-6	-196	9	46
Wisconsin	25	118	-1	26	13	-12	-25	-450	64	523
Wyoming	1	2	-1	3	0	0	0	-3	1	11
Total	903	6411	-110	1826	534	-1924	-510	-13206	1818	16435

Table A-31, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Alabama	-351	-158	125	-13	25	-33	-1	-31	-46	449
Alaska	-5	-1	4	-1	3	-4	0	-5	-7	12
Arizona	-496	-101	76	-9	23	-29	0	-33	-37	-364
Arkansas	-269	-64	100	-6	14	-20	0	-16	-25	208
California	-4476	-1585	913	[illegible]	139	-266	-6	-347	-332	-1022
Colorado	-321	-72	135	[illegible]	27	-35	-1	-44	-43	4
Connecticut	-885	-455	176	[illegible]	15	-30	-1	-50	-42	-695
Delaware	-40	-34	18	[illegible]	4	-7	0	-6	-8	107
District of Columbia	-12	-2	7	[illegible]	2	-5	0	-11	-18	-9
Florida	-814	-284	251	-22	75	-112	-2	-130	-126	349
Georgia	-464	-216	171	-15	34	-56	-1	-56	-69	1656
Hawaii	-11	-19	12	-2	7	-14	0	-12	-14	73
Idaho	-22	-15	19	-2	7	-10	0	-11	-12	210
Illinois	-2399	-725	561	-20	54	-118	-3	-154	-143	-1218
Indiana	-1672	-574	298	-14	27	-54	-1	-49	-64	-1673
Iowa	-323	-146	118	-6	17	-32	-1	-29	-38	465
Kansas	-172	-261	74	-6	16	-26	-1	-27	-33	52
Kentucky	-526	-138	90	-9	22	-32	-1	-33	-41	-302
Lousiana	-188	-141	85	-10	42	-40	-1	-52	-49	-206
Maine	-88	-56	27	-2	6	-11	0	-9	-14	293
Maryland	-581	-116	134	-9	30	-42	-1	-58	-83	-142
Massachusetts	-1284	-264	366	-10	26	-55	-1	-78	-91	448
Michigan	-920	-2177	258	-19	36	-88	-2	-87	-116	-2091
Minnesota	-564	-134	172	-8	24	-48	-1	-50	-58	633
Missippi	-207	-123	80	-5	17	-20	0	-19	-29	257
Missouri	-622	-334	176	-10	27	-52	-1	-50	-64	-23

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Table A-31, Continued
Change in U.S. Employment by State and Sector due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico
Scenario D.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Montana	-21	-2	13	-2	6	-8	0	-8	-11	105
Nebraska	-147	-46	66	-6	10	-17	-1	-18	-22	312
Nevada	-55	-9	15	-2	7	-16	0	-10	-13	-33
New Hampshire	-275	-51	73	-2	6	-10	0	-11	-12	28
New Jersey	-1337	-272	394	-15	35	-75	-2	-112	-98	86
New Mexico	-68	-22	21	-5	12	-12	0	-17	-19	-82
New York	-2396	-641	814	-33	62	-162	-5	-272	-255	648
North Carolina	-708	-145	319	-15	36	-56	-1	-48	-72	3681
North Dakota	-10	-12	15	-2	5	-7	0	-7	-9	168
Ohio	-2287	-1074	482	-23	49	-104	-2	-105	-133	-2338
Oklahoma	-276	-158	93	-8	26	-31	-1	-36	-40	-272
Oregon	-280	-77	99	-6	17	-30	-1	-32	-35	286
Pennsylvania	-2520	-593	401	-27	57	-110	-3	-119	-147	-1303
Rhode Island	-189	-73	60	-1	4	-9	0	-10	-13	54
South Carolina	-379	-108	103	-9	23	-28	0	-26	-35	1868
South Dakota	-34	-13	16	-2	5	-7	0	-6	-9	196
Tennessee	-563	-183	198	-21	27	-44	-1	-42	-56	506
Texas	-1681	-651	488	-38	139	-157	-4	-193	-182	-853
Utah	-153	-54	46	-4	11	-15	0	-16	-20	-67
Vermont	-106	-18	15	-1	4	-5	0	-4	-8	30
Virginia	-450	-243	181	-10	40	-51	-1	-67	-87	577
Washington	-207	-536	102	-11	28	-47	-1	-52	-55	-168
West Virginia	-156	-32	32	-6	17	-15	0	-18	-21	-603
Wisconsin	-1007	-371	186	-9	21	-49	-1	-43	-60	-164
Wyoming	-12	-3	8	-2	8	-5	0	-7	-6	-136
Total	-33027	-13583	8686	-516	1374	-2309	-53	-2724	-3018	-2

Table A-32
Change in U.S. Employment by State and Sector due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	Sector									
	1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Alabama	13	-33	-6	381	125	-1	0	-4	43	58
Alaska	2	-11	-1	1	2	0	0	0	1	2
Arizona	8	-51	-2	21	19	0	0	-1	19	4
Arkansas	18	-13	-7	35	33	0	5	-3	36	28
California	88	-81	-39	326	325	-3	5	-11	183	92
Colorado	10	-72	-5	16	24	0	1	-1	15	7
Connecticut	4	-5	-4	89	36	0	0	-1	18	25
Delaware	2	0	-3	23	10	0	0	0	3	2
District of Columbia	0	0	0	2	2	0	0	0	1	1
Florida	37	-29	-12	121	129	-1	4	-3	43	46
Georgia	21	-15	-13	951	170	-2	2	-4	40	72
Hawaii	3	0	-3	6	14	0	0	0	2	1
Idaho	10	-13	-3	11	6	0	0	-2	12	3
Illinois	28	-65	-25	99	113	-1	4	-4	57	68
Indiana	16	-21	-9	35	43	0	2	-3	47	32
Iowa	34	-7	-10	22	25	0	0	-1	12	10
Kansas	17	-30	-5	14	24	0	0	-1	7	10
Kentucky	16	-113	-8	73	67	-1	4	-2	21	17
Lousiana	14	-159	-7	38	49	0	0	-2	20	36
Maine	6	0	-2	81	14	0	15	-2	12	57
Maryland	8	-3	-5	35	52	0	1	-1	12	23
Massachusetts	7	-1	-7	274	120	-1	10	-2	38	54
Michigan	16	-23	-13	58	75	0	3	-2	51	57
Minnesota	29	-32	-10	35	31	0	1	-2	30	32
Missippi	13	-34	-4	55	95	-1	2	-3	42	17
Missouri	21	-20	-11	31	76	-1	17	-2	28	30

Table A-32, Continued
Change in U.S. Employment by State and Sector due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	Sector 1 Agr., For., & Fish.	2 Min. & Quarry.	310 Food, Bev., and Tob.	321 Textiles	322 Wearing Apparel	323 Leather Prod.	324 Footwear	331 Wood Prod.	332 Furn. & Fixt.	341 Paper & Paper Prod.
Montana	9	-14	-1	5	5	0	0	-1	10	1
Nebraska	18	-3	-5	10	13	0	0	0	7	3
Nevada	1	-9	0	8	6	0	0	0	3	0
New Hampshire	2	0	-1	31	8	0	7	-1	16	14
New Jersey	6	-8	-15	221	153	-2	2	-2	30	66
New Mexico	5	-58	-1	13	9	0	0	-1	6	0
New York	21	-18	-23	415	414	-5	9	-5	62	102
North Carolina	28	-9	-14	2114	168	-2	4	-5	132	57
North Dakota	10	-12	-1	5	5	0	0	0	1	0
Ohio	22	-58	-18	90	77	-1	3	-3	57	92
Oklahoma	11	-131	-4	34	38	0	0	-1	14	10
Oregon	20	-6	-5	25	18	0	0	-10	104	21
Pennsylvania	20	-101	-24	404	304	-4	11	-4	76	95
Rhode Island	1	0	-1	146	15	0	1	-1	4	5
South Carolina	11	-6	-4	1185	96	-1	0	-2	23	29
South Dakota	10	-5	-2	5	6	0	0	0	3	1
Tennessee	14	-20	-10	261	156	-2	14	-3	51	37
Texas	46	-408	-25	128	221	-2	4	-5	73	52
Utah	3	-35	-2	13	19	0	0	0	5	1
Vermont	3	-1	-1	11	6	0	0	0	7	4
Virginia	16	-59	-10	418	99	-1	2	-3	54	37
Washington	25	-7	-7	33	36	0	0	-6	59	47
West Virginia	3	-138	-3	12	17	0	2	-1	8	6
Wisconsin	26	-5	-13	73	38	0	4	-4	51	119
Wyoming	2	-66	0	1	3	0	0	0	2	0
Total	776	-2010	-404	8494	3610	-38	139	-113	1652	1584

Table A-32, Continued
Change in U.S. Employment by State and Sector due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	Sector									
	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Alabama	4	61	-1	3	4	-41	-69	-144	6	60
Alaska	0	1	0	0	0	0	0	0	0	2
Arizona	4	17	0	1	1	-10	-11	-39	5	85
Arkansas	4	29	0	1	2	-14	-8	-69	5	45
California	50	334	-4	13	14	-408	-91	-404	45	1108
Colorado	6	40	0	1	3	-33	-13	-29	3	118
Connecticut	9	104	0	2	1	-45	-32	-116	12	171
Delaware	1	48	0	1	0	-8	-3	-4	1	8
District of Columbia	2	1	0	0	0	0	0	-2	0	7
Florida	16	102	0	4	5	-99	-12	-77	9	159
Georgia	8	83	0	3	4	-89	-25	-89	7	92
Hawaii	1	3	0	0	0	-2	0	-5	0	8
Idaho	1	10	0	0	1	-2	-1	-6	1	19
Illinois	42	279	-3	7	6	-259	-146	-338	33	538
Indiana	11	179	-3	3	4	-220	-134	-253	20	170
Iowa	7	41	0	2	2	-6	-14	-82	6	132
Kansas	6	33	-1	2	3	-12	-14	-20	3	60
Kentucky	6	62	-1	2	2	-56	-17	-99	7	102
Lousiana	4	73	-2	3	1	-41	-10	-61	3	51
Maine	2	8	0	0	0	-2	-2	-5	2	16
Maryland	12	57	-1	2	3	-49	-28	-39	5	99
Massachusetts	17	152	0	4	2	-54	-27	-95	15	400
Michigan	15	191	-1	5	4	-157	-142	-263	22	352
Minnesota	12	69	0	2	2	-41	-16	-50	9	289
Missippi	3	25	0	1	2	-41	-6	-29	4	38
Missouri	11	108	0	3	5	-33	-35	-90	9	111

Table A-32, Continued
Change in U.S. Employment by State and Sector due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	342 Print & Publ.	35A Chemicals	35B Petrol. & Rel. Prod.	355 Rubber Prod.	36A Nonmetal Min. Prod.	362 Glass & Glass Prod.	371 Iron & Steel	372 Nonferrous Metals	381 Metal Prod.	382 Nonelec. Mach.
Montana	1	1	0	0	0	-2	-1	-13	0	5
Nebraska	3	19	0	1	1	-6	-2	-9	2	37
Nevada	1	4	0	0	1	-6	-2	-5	1	10
New Hampshire	3	20	0	1	0	-23	-10	-15	3	72
New Jersey	23	434	-2	6	4	-367	-39	-167	15	230
New Mexico	2	4	0	1	1	0	-1	-2	1	17
New York	56	452	-1	8	6	-305	-74	-243	28	610
North Carolina	9	128	0	4	3	-169	-10	-66	14	141
North Dakota	1	1	0	0	0	0	-1	0	0	11
Ohio	24	284	-4	9	12	-511	-247	-463	39	424
Oklahoma	4	18	-1	3	2	-124	-12	-29	5	93
Oregon	4	15	0	1	1	-10	-29	-41	4	43
Pennsylvania	26	254	-6	7	12	-607	-275	-325	37	340
Rhode Island	3	25	0	1	0	-37	-12	-46	4	42
South Carolina	4	108	0	2	2	-105	-9	-37	5	71
South Dakota	1	2	0	0	0	-2	0	0	1	17
Tennessee	8	153	0	4	3	-132	-24	-124	9	106
Texas	23	270	-7	11	13	-148	-86	-250	23	443
Utah	2	15	0	1	1	-10	-16	-16	2	53
Vermont	1	7	0	0	0	-2	-1	-5	2	24
Virginia	10	109	0	3	3	-62	-25	-73	6	95
Washington	7	26	0	2	2	-45	-15	-114	4	69
West Virginia	2	48	0	2	1	-257	-22	-70	2	21
Wisconsin	13	85	0	2	3	-29	-92	-160	16	237
Wyoming	1	1	0	0	0	0	0	-1	0	5
Total	487	4594	-43	130	144	-4680	-1860	-4679	455	7456

Table A-32, Continued
Change in U.S. Employment by State and Sector due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Alabama	30	-295	166	-3	13	-16	1	-9	-53	295
Alaska	0	-2	6	0	2	-2	0	-1	-8	-6
Arizona	42	-188	101	-2	12	-14	1	-10	-42	-28
Arkansas	23	-120	132	-1	7	-9	1	-5	-28	125
California	381	-2957	1206	-9	73	-124	10	-103	-381	-360
Colorado	27	-134	178	-2	14	-16	2	-13	-49	99
Connecticut	75	-848	233	-1	8	-14	1	-15	-48	-340
Delaware	3	-63	24	0	2	-3	0	-2	-10	31
District of Columbia	1	-3	9	0	1	-2	0	-3	-21	-5
Florida	69	-529	332	-4	39	-52	4	-39	-145	115
Georgia	39	-403	226	-3	18	-26	2	-17	-79	974
Hawaii	1	-36	16	0	4	-7	1	-4	-16	-14
Idaho	2	-29	25	0	4	-5	0	-3	-13	27
Illinois	204	-1353	741	-4	29	-55	5	-46	-164	-210
Indiana	142	-1072	393	-3	14	-25	2	-14	-74	-717
Iowa	27	-272	157	-1	9	-15	1	-8	-44	25
Kansas	15	-488	97	-1	8	-12	1	-8	-38	-328
Kentucky	45	-258	119	-2	12	-15	1	-10	-47	-72
Lousiana	16	-262	113	-2	22	-19	2	-15	-56	-191
Maine	7	-105	35	0	3	-5	0	-3	-16	118
Maryland	49	-216	177	-2	16	-19	2	-17	-95	76
Massachusetts	109	-492	483	-2	14	-26	2	-23	-104	867
Michigan	78	-4062	341	-4	19	-41	3	-26	-133	-3578
Minnesota	48	-249	228	-2	12	-22	2	-15	-67	324
Missippi	18	-230	105	-1	9	-9	1	-6	-33	31
Missouri	53	-624	232	-2	14	-24	2	-15	-73	-178

Table A-32, Continued
Change in U.S. Employment by State and Sector due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	Sector									
	383 Elec. Mach.	384 Transp. Equip.	38A Misc. Manuf.	4 Elec., Gas & Water	5 Construction	6 Whole. & Ret. Trade	7 Transp., Stor., & Comm.	8 Fin., Ins., & Real Est.	9 Comm., Soc., & Pers. Serv.	Total
Montana	2	-4	17	0	3	-4	1	-2	-13	5
Nebraska	12	-86	88	-1	5	-8	1	-5	-25	70
Nevada	5	-16	20	0	4	-8	0	-3	-15	0
New Hampshire	23	-96	97	0	3	-4	0	-3	-14	132
New Jersey	114	-507	520	-3	19	-35	4	-33	-113	553
New Mexico	6	-41	28	-1	6	-6	0	-5	-22	-38
New York	204	-1195	1075	-7	32	-75	8	-80	-293	1176
North Carolina	60	-271	421	-3	19	-26	2	-14	-82	2630
North Dakota	1	-22	20	0	3	-3	0	-2	-10	6
Ohio	194	-2003	637	-5	26	-49	4	-31	-152	-1550
Oklahoma	23	-294	123	-2	14	-14	1	-11	-46	-274
Oregon	24	-144	131	-1	9	-14	1	-9	-40	113
Pennsylvania	214	-1107	530	-6	30	-51	4	-35	-169	-348
Rhode Island	16	-136	79	0	2	-4	0	-3	-15	87
South Carolina	32	-202	136	-2	12	-13	1	-8	-40	1290
South Dakota	3	-24	21	0	2	-3	0	-2	-11	24
Tennessee	48	-341	262	-4	14	-20	2	-13	-65	382
Texas	143	-1215	645	-8	73	-73	6	-57	-208	-318
Utah	13	-101	61	-1	6	-7	1	-5	-23	-21
Vermont	9	-34	19	0	2	-2	0	-1	-9	39
Virginia	38	-454	239	-2	21	-24	2	-20	-100	320
Washington	18	-999	134	-2	15	-22	2	-16	-63	-817
West Virginia	13	-60	43	-1	9	-7	1	-5	-24	-399
Wisconsin	86	-693	246	-2	11	-23	2	-13	-69	-90
Wyoming	1	-5	11	0	4	-3	0	-2	-7	-52
Total	2808	-25341	11474	-105	722	-1075	94	-806	-3465	-2

Table A-33

Change in U.S. Employment by Region and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.

(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
Executive	173	311	-132	105	327	19	-69	11	17	762
Professional	38	117	-371	-16	-6	-30	-205	-63	-201	-738
Technical	72	146	-66	63	129	21	-36	15	12	358
Mktg./Sales	93	291	281	161	252	84	202	80	220	1663
Admin./Clerical	172	395	-282	89	489	50	-125	8	-55	742
Service	-23	-86	-268	-49	29	-44	-99	-42	-103	-684
Agriculture	-44	-96	-261	-368	-255	-124	-204	-101	-268	-1721
Skilled	106	83	-967	40	646	-53	-262	-105	-342	-853
Semi-/Unskilled	381	210	-2917	-42	3063	366	-192	-55	-343	472
Total	969	1371	-4984	-16	4675	289	-988	-252	-1063	0

Table A-34

Change in U.S. Employment by Region and Occupation
due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican
Bilateral Import Quota Limits, Scenario C.
(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
Executive	141	218	-184	75	265	0	-132	-15	-32	335
Professional	17	37	-396	-30	-55	-44	-253	-81	-211	-1016
Technical	63	114	-78	55	105	14	-56	6	-1	223
Mktg./Sales	69	221	204	127	189	61	147	58	149	1226
Admin./Clerical	122	227	-381	52	382	14	-213	-23	-122	56
Service	-43	-144	-317	-72	-19	-60	-131	-59	-137	-982
Agriculture	52	116	280	390	312	136	228	120	326	1960
Skilled	84	-39	-989	4	536	-114	-387	-175	-361	-1442
Semi-/Unskilled	306	-19	-2921	-80	2884	263	-290	-111	-394	-362
Total	810	731	-4783	522	4599	271	-1087	-281	-783	0

Table A-35

Change in U.S. Employment by Region and Occupation due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

Occupation	Region									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
Executive	139	278	-252	51	281	12	-41	14	-23	459
Professional	-13	41	-488	-86	-42	-54	-168	-54	-345	-1209
Technical	38	94	-104	35	134	15	-10	18	-5	215
Mktg./Sales	86	272	243	129	224	71	177	64	200	1466
Admin./Clerical	142	343	-440	13	456	41	-135	3	-140	283
Service	-44	-158	-399	-94	-37	-62	-140	-59	-162	-1157
Agriculture	22	46	102	139	132	54	88	47	142	772
Skilled	41	14	-1402	-93	573	-34	-256	-45	-479	-1682
Semi-/Unskilled	492	453	-3404	-152	3313	594	-175	5	-273	853
Total	903	1382	-6145	-57	5033	636	-659	-7	-1085	0

Table A-36

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Only

Scenario A.

(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Alabama	15	-7	11	23	17	-6	-17	-3	285	318
Alaska	0	-9	-3	4	-3	-2	-3	1	0	-17
Arizona	-5	-32	-5	24	-18	-17	-12	-49	-56	-170
Arkansas	1	-6	-2	23	12	-11	-33	11	33	29
California	19	-95	32	199	-39	-89	-127	-205	-220	-524
Colorado	4	3	15	27	13	-2	-14	15	25	86
Connecticut	3	-53	-12	26	-45	-14	-4	-108	-139	-347
Delaware	14	6	6	7	13	-1	-2	6	9	58
District of Columbia	-3	-4	1	2	0	-3	0	5	6	5
Florida	33	-36	-1	66	14	-33	-39	48	33	84
Georgia	69	-7	12	56	112	14	-34	144	697	1063
Hawaii	4	-1	1	10	0	-3	-6	-1	2	7
Idaho	4	-5	2	8	5	-2	-18	5	18	16
Illinois	17	-14	5	117	32	-39	-53	-52	-303	-290
Indiana	-21	-58	-14	41	-78	-41	-32	-168	-607	-977
Iowa	7	0	7	31	8	-10	-71	27	13	12
Kansas	-2	-34	-7	23	-32	-11	-34	-84	-75	-256
Kentucky	-12	-6	-4	25	-9	-15	-30	-103	-100	-255
Lousiana	-14	-33	-10	27	-27	-24	-22	-120	-56	-280
Maine	4	-1	4	7	4	-2	-11	16	81	102
Maryland	17	-11	10	31	18	-16	-12	-3	7	40
Massachusetts	125	68	61	57	172	-9	-9	135	322	921
Michigan	-124	-222	-56	63	-234	-124	-28	-564	-1340	-2629
Minnesota	72	52	58	41	93	-4	-57	56	89	399
Missippi	-4	-12	-4	19	5	-12	-23	-16	54	7
Missouri	10	-34	-5	53	-9	-25	-39	-29	-123	-201

Table A-36, Continued

Change in U.S. Employment by State and Occupation
due to NAFTA, Tariffs Only
Scenario A.
(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Montana	1	-5	-1	7	-2	-4	-14	-3	-9	-32
Nebraska	6	-3	0	21	7	-5	-38	29	18	35
Nevada	-1	-5	1	7	2	-6	-2	5	-5	-2
New Hampshire	21	9	11	9	17	0	-3	6	46	115
New Jersey	101	30	51	84	129	-12	-7	66	151	594
New Mexico	0	-12	-2	3	-8	-8	-7	-44	-17	-96
New York	193	102	96	186	278	-38	-32	170	406	1360
North Carolina	126	41	53	58	244	42	-52	463	1715	2691
North Dakota	1	-5	-2	8	2	-1	-22	6	0	-15
Ohio	-48	-93	-20	78	-101	-69	-38	-298	-814	-1404
Oklahoma	-30	-28	-10	29	-56	-15	-20	-73	-91	-294
Oregon	7	-7	-1	20	11	-9	-26	12	21	27
Pennsylvania	8	-49	-20	90	-44	-52	-32	-198	-201	-499
Rhode Island	9	-5	1	9	5	-3	-1	20	79	113
South Carolina	65	19	30	26	101	48	-17	212	890	1373
South Dakota	0	-3	3	9	2	-2	-21	4	16	8
Tennessee	18	-11	16	32	37	-15	-24	54	278	386
Texas	-50	-166	-27	159	-94	-62	-79	-151	-63	-533
Utah	5	-11	4	13	4	-5	-5	-17	-6	-17
Vermont	0	2	0	6	-2	-3	-5	12	10	22
Virginia	18	-19	19	40	10	-8	-27	-37	351	348
Washington	-44	-130	-41	30	-75	-19	-36	-212	-139	-665
West Virginia	-5	-14	-8	15	-15	-18	-4	-178	-231	-459
Wisconsin	4	-27	-2	39	12	-25	-49	-13	-81	-142
Wyoming	-9	-10	-6	2	-4	-6	-4	-55	-24	-116
Total	629	-956	245	1992	485	-794	-1296	-1256	951	0

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Table A-37

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B (Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Alabama	15	-6	11	18	16	-6	-23	-2	232	256
Alaska	0	-9	-3	3	-3	-1	-4	1	0	-16
Arizona	0	-28	-2	22	-13	-15	-16	-40	-49	-141
Arkansas	2	-4	-2	19	14	-10	-43	15	28	19
California	47	-59	53	167	5	-75	-174	-154	-228	-417
Colorado	8	9	17	24	18	0	-19	23	30	111
Connecticut	8	-48	-10	22	-36	-13	-6	-97	-128	-308
Delaware	14	6	6	6	13	-1	-3	5	6	53
District of Columbia	-2	-3	2	1	1	-2	0	5	6	8
Florida	34	-29	4	51	24	-28	-58	57	17	72
Georgia	66	-5	12	49	106	13	-46	134	593	922
Hawaii	4	-1	1	7	1	-2	-7	-2	-1	1
Idaho	3	-4	2	7	5	-2	-23	6	18	12
Illinois	30	-1	12	97	60	-32	-69	-21	-253	-178
Indiana	-16	-52	-11	36	-65	-36	-41	-145	-562	-893
Iowa	9	1	8	27	10	-8	-92	31	20	7
Kansas	-1	-32	-6	19	-29	-9	-44	-79	-72	-253
Kentucky	-10	-4	-3	22	-6	-14	-40	-92	-107	-253
Lousiana	-11	-30	-9	22	-22	-22	-29	-107	-59	-267
Maine	4	-1	3	6	4	-1	-14	15	74	90
Maryland	20	-6	13	25	23	-14	-17	4	6	54
Massachusetts	130	78	65	46	179	-5	-12	144	304	928
Michigan	-117	-214	-52	46	-218	-117	-37	-539	-1297	-2544
Minnesota	77	56	62	38	99	-2	-74	66	98	419
Missippi	-4	-12	-4	16	4	-11	-30	-16	20	-34
Missouri	11	-31	-3	46	-5	-23	-52	-21	-124	-201

Table A-37, Continued

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. Import Quota Limits Applied to Mexican Exports, Scenario B.
(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Montana	1	-5	-1	5	-2	-4	-19	-1	-8	-34
Nebraska	7	-3	1	18	10	-4	-50	30	20	29
Nevada	-1	-4	2	7	3	-4	-3	7	-4	2
New Hampshire	22	11	12	8	20	1	-4	10	47	127
New Jersey	105	37	56	69	137	-9	-10	74	131	588
New Mexico	0	-11	-2	3	-6	-7	-10	-38	-17	-87
New York	193	117	105	151	287	-30	-43	181	338	1299
North Carolina	119	41	52	52	229	39	-68	437	1552	2454
North Dakota	1	-5	-2	6	2	-1	-29	7	0	-19
Ohio	-37	-83	-15	69	-78	-61	-50	-260	-747	-1261
Oklahoma	-26	-24	-8	23	-49	-14	-27	-63	-88	-275
Oregon	8	-6	0	17	13	-8	-35	15	24	30
Pennsylvania	13	-37	-14	71	-28	-48	-43	-172	-259	-516
Rhode Island	9	-4	1	7	6	-2	-1	21	73	109
South Carolina	61	18	28	20	93	45	-22	198	801	1242
South Dakota	0	-3	3	8	2	-2	-27	5	16	2
Tennessee	17	-9	17	28	36	-13	-31	56	220	321
Texas	-33	-146	-17	138	-67	-54	-104	-107	-74	-465
Utah	7	-9	6	10	6	-5	-7	-12	-5	-9
Vermont	1	3	0	5	-1	-2	-6	13	10	23
Virginia	21	-15	20	33	13	-6	-36	-31	305	304
Washington	-42	-126	-40	25	-71	-17	-48	-204	-138	-661
West Virginia	-3	-13	-7	14	-13	-17	-6	-164	-225	-434
Wisconsin	8	-22	0	33	20	-22	-64	-1	-59	-107
Wyoming	-8	-10	-6	2	-4	-5	-5	-50	-21	-107
Total	762	-738	358	1663	742	-684	-1721	-853	472	0

Table A-38

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C. (Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Alabama	11	-9	10	12	7	-10	28	-15	212	246
Alaska	0	-10	-3	2	-4	-2	4	0	0	-12
Arizona	-6	-32	-5	16	-20	-19	17	-53	-64	-165
Arkansas	-2	-7	-2	15	10	-12	46	5	15	69
California	-2	-80	37	113	-61	-102	219	-191	-290	-358
Colorado	-2	0	13	18	6	-4	25	7	16	79
Connecticut	0	-49	-9	16	-45	-17	9	-93	-136	-323
Delaware	13	5	6	5	12	-2	4	6	7	55
District of Columbia	-4	-5	1	1	-2	-4	0	5	5	-1
Florida	21	-39	-2	33	3	-41	94	44	4	116
Georgia	58	-11	10	40	90	5	50	123	578	944
Hawaii	3	-2	1	6	-1	-4	7	0	0	10
Idaho	3	-3	3	6	4	-3	25	3	17	54
Illinois	4	-22	2	73	10	-50	74	-63	-309	-281
Indiana	-25	-58	-14	26	-82	-45	42	-162	-594	-913
Iowa	5	-2	7	21	6	-13	95	26	14	160
Kansas	-3	-31	-6	14	-31	-12	47	-74	-68	-165
Kentucky	-16	-9	-5	16	-17	-19	43	-116	-141	-263
Lousiana	-20	-36	-11	13	-35	-28	33	-132	-70	-286
Maine	3	-2	3	3	3	-3	16	15	69	109
Maryland	9	-17	7	18	7	-21	21	-6	-12	7
Massachusetts	112	62	58	34	150	-16	14	125	261	800
Michigan	-109	-194	-45	31	-206	-119	39	-472	-1159	-2234
Minnesota	66	49	58	30	85	-8	78	48	78	485
Missippi	-6	-12	-5	13	2	-13	31	-21	8	-1
Missouri	5	-34	-4	36	-17	-28	59	-29	-135	-147

Table A-38, Continued

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Plus 25% Expansion of U.S. and Mexican Bilateral Import Quota Limits, Scenario C

(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Montana	1	-4	-2	4	-2	-4	23	-5	-10	1
Nebraska	3	-4	0	15	6	-6	52	26	16	108
Nevada	-2	-6	1	5	1	-8	3	4	-7	-9
New Hampshire	19	8	11	6	14	-1	5	6	37	106
New Jersey	80	18	47	52	95	-20	13	47	79	412
New Mexico	-2	-13	-3	1	-9	-9	13	-50	-22	-94
New York	148	77	91	118	206	-58	52	137	252	1022
North Carolina	109	33	48	42	208	34	71	412	1498	2454
North Dakota	0	-6	-2	5	1	-2	29	4	-1	30
Ohio	-55	-94	-20	49	-111	-74	55	-282	-778	-1311
Oklahoma	-35	-30	-11	17	-63	-17	29	-82	-100	-292
Oregon	6	-6	0	11	10	-10	41	12	20	83
Pennsylvania	-9	-58	-25	50	-74	-66	51	-223	-350	-704
Rhode Island	7	-6	1	5	3	-4	1	19	66	91
South Carolina	58	15	27	16	86	41	23	190	778	1234
South Dakota	-1	-3	3	6	2	-3	30	3	15	52
Tennessee	11	-14	14	20	22	-18	34	38	184	289
Texas	-76	-180	-31	102	-125	-74	119	-179	-134	-578
Utah	4	-12	5	8	3	-7	8	-20	-13	-24
Vermont	0	2	0	4	-2	-3	8	12	8	28
Virginia	9	-21	17	24	-3	-13	41	-42	280	292
Washington	-38	-114	-35	17	-66	-20	55	-181	-123	-506
West Virginia	-8	-16	-9	11	-19	-19	7	-195	-254	-502
Wisconsin	2	-27	-2	25	9	-29	70	-9	-81	-43
Wyoming	-10	-11	-7	1	-6	-6	6	-61	-27	-121
Total	335	-1015	223	1226	56	-982	1960	-1442	-362	0

Table A-39

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico

Scenario D.

(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Alabama	4	-8	11	13	4	-8	157	-61	338	449
Alaska	1	-9	-5	3	-4	-2	24	0	4	12
Arizona	-43	-58	-27	16	-51	-31	99	-124	-144	-364
Arkansas	-8	-12	-4	20	4	-12	267	-33	-14	208
California	-254	-244	-117	106	-374	-132	1210	-600	-616	-1022
Colorado	-30	-20	-4	25	-20	-8	134	-41	-32	4
Connecticut	-49	-67	-20	16	-119	-24	45	-170	-307	-695
Delaware	16	8	6	7	17	-1	21	11	22	107
District of Columbia	-4	-6	-1	0	-6	-4	3	3	5	-9
Florida	8	-61	-41	48	-46	-52	485	-7	16	349
Georgia	72	-16	7	54	101	17	289	152	981	1656
Hawaii	5	-1	1	12	-3	-5	42	7	16	73
Idaho	9	2	6	7	6	-2	143	5	33	210
Illinois	-112	-94	-54	88	-232	-85	432	-329	-832	-1218
Indiana	-68	-105	-40	26	-194	-70	247	-364	-1106	-1673
Iowa	-11	-6	2	25	-10	-20	554	-9	-60	465
Kansas	-5	-27	-8	17	-36	-15	271	-75	-68	52
Kentucky	-38	-19	-13	17	-44	-28	251	-194	-234	-302
Lousiana	-26	-33	-13	16	-54	-32	191	-183	-71	-206
Maine	7	2	6	5	11	-2	91	31	141	293
Maryland	-18	-49	-17	24	-32	-28	118	-66	-75	-142
Massachusetts	62	9	27	45	77	-33	79	10	172	448
Michigan	-119	-170	-41	55	-232	-126	229	-472	-1215	-2091
Minnesota	30	41	40	31	50	-13	456	-9	7	633
Missippi	-5	-7	-6	20	10	-13	183	-21	95	257
Missouri	-9	-35	-11	43	-48	-30	335	-87	-182	-23

Table A-39, Continued

Change in U.S. Employment by State and Occupation due to NAFTA, Tariffs Only Plus 10% Capital Flow into Mexico

Scenario D.

(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Montana	2	2	-3	7	-2	-3	129	-15	-11	105
Nebraska	-6	-4	-6	19	-4	-7	304	17	-1	312
Nevada	-6	-7	1	4	-6	-14	18	-4	-18	-33
New Hampshire	9	-5	4	6	-10	-2	28	-15	14	28
New Jersey	11	-22	19	75	-6	-25	70	-57	21	86
New Mexico	-6	-13	-5	-1	-16	-10	70	-77	-24	-82
New York	70	5	40	178	63	-81	294	-49	127	648
North Carolina	139	38	57	45	254	59	416	512	2161	3681
North Dakota	0	-6	-3	7	1	-2	173	0	0	168
Ohio	-155	-143	-56	38	-284	-105	317	-570	-1379	-2338
Oklahoma	-56	-36	-20	24	-91	-18	170	-131	-114	-272
Oregon	3	-4	-11	13	10	-9	233	5	46	286
Pennsylvania	-72	-129	-68	69	-247	-84	285	-491	-566	-1303
Rhode Island	1	-15	-4	7	-13	-5	8	12	63	54
South Carolina	82	27	32	28	115	62	135	253	1135	1868
South Dakota	-1	1	2	8	1	-3	171	2	15	196
Tennessee	10	-14	12	25	3	-21	195	-5	301	506
Texas	-183	-273	-97	106	-276	-93	680	-431	-286	-853
Utah	-1	-20	-1	10	-1	-8	44	-46	-43	-67
Vermont	-5	-1	-7	6	-12	-4	44	8	1	30
Virginia	-10	-30	11	33	-29	-13	235	-59	439	577
Washington	-25	-89	-33	22	-53	-20	312	-187	-95	-168
West Virginia	-14	-20	-13	12	-31	-22	39	-274	-282	-603
Wisconsin	-20	-49	-23	28	-54	-45	402	-107	-297	-164
Wyoming	-12	-13	-11	2	-10	-7	35	-83	-37	-136
Total	-833	-1805	-497	1510	-1922	-1239	11162	-4418	-1958	0

Table A-40

Change in U.S. Employment by State and Occupation due to US-Canada FTA, Tariffs Only
Scenario E.
(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Alabama	9	-13	7	18	12	-11	12	-6	266	295
Alaska	0	-6	-1	2	-3	-1	1	1	1	-6
Arizona	7	-16	6	18	-6	-17	7	-13	-14	-28
Arkansas	3	-4	0	17	13	-13	17	22	69	125
California	29	-171	43	158	-41	-119	98	-199	-158	-360
Colorado	5	-1	14	17	11	-7	10	24	26	99
Connecticut	2	-63	-20	19	-36	-17	4	-125	-102	-340
Delaware	10	3	6	5	8	-3	2	-3	2	31
District of Columbia	-4	-5	1	1	-2	-4	0	4	4	-5
Florida	21	-39	17	53	11	-49	47	5	49	115
Georgia	55	-6	11	42	99	4	19	114	635	974
Hawaii	3	-3	0	7	-3	-6	2	-12	-4	-14
Idaho	1	-3	0	5	3	-3	9	3	12	27
Illinois	17	-12	18	88	54	-55	28	-55	-293	-210
Indiana	-16	-44	-5	33	-55	-49	15	-141	-456	-717
Iowa	6	-5	6	22	0	-17	33	0	-20	25
Kansas	-14	-46	-10	15	-41	-15	16	-115	-119	-328
Kentucky	-5	-6	-2	18	-2	-18	16	-55	-18	-72
Lousiana	-7	-28	-7	20	-26	-26	13	-87	-42	-191
Maine	4	-4	0	6	-1	-2	6	13	96	118
Maryland	19	-2	16	23	15	-23	9	-10	29	76
Massachusetts	104	47	46	45	151	-14	6	127	355	867
Michigan	-194	-298	-93	37	-337	-166	14	-811	-1729	-3578
Minnesota	52	23	41	28	59	-15	28	41	68	324
Missippi	-4	-15	-5	14	-3	-12	12	-17	62	31
Missouri	1	-46	-7	39	-8	-35	22	-47	-98	-178

Table A-40, Continued

Change in U.S. Employment by State and Occupation
due to US-Canada FTA, Tariffs Only
Scenario E
(Number of Workers)

State	Occupation									
	Executive	Professional	Technical	Mktg./ Sales	Admin./ Clerical	Service	Agriculture	Skilled	Semi-/ Unskilled	Total
Montana	4	-3	-1	5	-2	-4	9	-1	-2	5
Nebraska	7	-6	4	15	4	-7	18	22	13	70
Nevada	1	-3	0	6	2	-8	1	2	-1	0
New Hampshire	19	8	9	6	21	-2	2	7	61	132
New Jersey	111	39	48	64	131	-24	6	53	126	553
New Mexico	2	-10	-2	3	-2	-7	6	-21	-6	-38
New York	165	48	70	143	237	-63	20	116	440	1176
North Carolina	114	38	44	46	241	31	27	433	1657	2630
North Dakota	1	-4	-1	5	0	-2	10	4	-6	6
Ohio	-56	-109	-27	56	-112	-96	21	-359	-868	-1550
Oklahoma	-18	-24	-6	19	-47	-20	10	-62	-127	-275
Oregon	11	-1	6	14	17	-10	18	7	50	113
Pennsylvania	1	-47	-23	66	-25	-71	20	-155	-114	-348
Rhode Island	7	-3	-1	6	5	-5	1	9	69	87
South Carolina	56	14	29	19	94	42	9	185	842	1290
South Dakota	-1	-3	2	6	0	-3	11	2	11	24
Tennessee	12	-20	15	22	33	-21	14	43	285	382
Texas	-19	-111	3	121	-74	-81	47	-130	-76	-318
Utah	-2	-12	3	9	-2	-9	3	-14	1	-21
Vermont	3	3	3	5	3	-3	3	9	13	39
Virginia	16	-31	15	25	9	-15	16	-51	337	320
Washington	-66	-165	-53	19	-110	-26	22	-277	-162	-817
West Virginia	-5	-15	-6	11	-19	-21	3	-105	-242	-399
Wisconsin	-4	-25	3	29	10	-33	25	-36	-59	-90
Wyoming	-4	-6	-2	1	-1	-4	2	-26	-12	-52
Total	459	-1209	215	1466	283	-1157	772	-1682	853	0

Table A-41
Lost Wages per Worker Dislocation by Sector (in Dollars)

Sector		Average Wages Lost
ISIC	Name	
1	Agr., For., & Fish.	1,748
2	Min. & Quarry.	9,099
310	Food, Bev., and Tob.	2,863
321	Textiles	3,422
322	Wearing Apparel	2,674
323	Leather Prod.	2,651
324	Footwear	5,468
331	Wood Prod.	2,893
332	Furn. & Fixt.	4,112
341	Paper & Paper Prod.	4,583
342	Print & Publ.	4,746
35A	Chemicals	2,604
35B	Petrol. & Rel. Prod.	4,156
355	Rubber Prod.	3,534
36A	Nonmetal Min. Prod.	5,664
362	Glass & Glass Prod.	4,702
371	Iron & Steel	4,329
372	Nonferrous Metals	4,350
381	Metal Prod.	4,546
382	Nonelec. Mach.	5,438
383	Elec. Mach.	5,131
384	Transp. Equip.	5,316
38A	Misc. Manuf.	4,236
4	Elec., Gas & Water	4,809
5	Construction	4,096
6	Whole. & Ret. Trade	2,786
7	Transp., Stor., & Comm.	4,744
8	Fin., Ins., & Real Est.	4,302
9	Comm., Soc., & Pers. Serv.	3,235

Table A-42
Lost Wages per Worker Dislocation by Occupation (in Dollars)

Occupation	Average Wages Lost
Executive	6,300
Professional	5,800
Technical	4,089
Marketing/Sales	3,100
Administrative/Clerical	3,111
Services	1,663
Agriculture	1,802
Skilled	3,879
Semi-/Unskilled	3,503

Table A-43
Lost Wages per Worker Dislocation by Region (in Dollars)

Region	Average Wages Lost
New England	3,163
Middle Atlantic	4,188
East North Central	4,146
West North Central	2,845
South Atlantic	3,233
East South Central	2,912
West South Central	3,779
Mountain	3,486
Pacific	5,141

Table A-43
Lost Wages per Worker Dislocation by Region (in Dollars)

Region	Average Wages Lost
New England	3,163
Middle Atlantic	4,188
East North Central	4,146
West North Central	2,845
South Atlantic	3,233
East South Central	2,912
West South Central	3,779
Mountain	3,486
Pacific	5,141

Table A-44
Lost Wages per Worker Dislocation by State (in Dollars)

State	Average Wages Lost
Alabama	3,559
Alaska	7,407
Arizona	3,038
Arkansas	3,674
California	4,863
Colorado	2,608
Connecticut	3,237
Delaware	2,676
District of Columbia	5,191
Florida	2,948
Georgia	3,064
Hawaii	3,025
Idaho	3,158
Illinois	3,585
Indiana	1,998
Iowa	2,872
Kansas	2,560
Kentucky	3,274
Louisiana	3,186
Maine	2,078
Maryland	2,778
Massachusetts	3,778
Michigan	4,809
Minnesota	4,183
Mississippi	2,092
Missouri	3,205
Montana	3,440
Nebraska	2,107
Nevada	3,547
New Hampshire	2,664
New Jersey	4,804
New Mexico	3,116
New York	4,112
North Carolina	2,892
North Dakota	2,704
Ohio	4,170
Oklahoma	4,230
Oregon	3,894
Pennsylvania	3,790
Rhode Island	2,991
South Carolina	3,199
South Dakota	1,723
Tennessee	3,138
Texas	3,752
Utah	4,271
Vermont	2,134
Virginia	4,095
Washington	5,136
West Virginia	4,275
Wisconsin	5,125
Wyoming	5,037

APPENDIX B

THE IMPACT OF THE NORTH AMERICAN FREE TRADE AGREEMENT ON U.S. REGIONAL AND SECTORAL LABOR MARKETS

DRI/MCGRAW-HILL
LEXINGTON, MASSACHUSETTS

AUGUST 1992

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Executive Summary

The United States, Canada, and Mexico have negotiated and signed a North American Free Trade Agreement (NAFTA). This agreement will create a $6 trillion market with 360 million people and $200 billion in trade--arguably the largest in the world. The potential agreement has generated enthusiasm as well as apprehension because of the opportunities and challenges that it will bring to industries in the three countries involved.

DRI/McGraw-Hill has conducted three simulation exercises designed to measure the potential impact of NAFTA on the US economy and on employment levels within nine US geographical regions and nineteen manufacturing and six non-manufacturing industry sectors. This study focuses exclusively on the effects of trade liberalization between the United States and Mexico, with no consideration for the impact of Canadian participation in this potential agreement. These simulations incorporate the following scenarios:

- **Baseline Case**. Assumes there is no NAFTA between Mexico and the United States through the year 2000.
- **Gradual Case**. Assumes a gradual implementation of NAFTA beginning in 1993, according to the rate of industry-specific trade liberalization as described in the assumptions section. It appears that this scenario most closely reflects the conditions negotiated in NAFTA.
- **Nongradual Case**. Assumes that trade is fully opened immediately in 1993, with no easing in of trade liberalization in either Mexico or the US.

The principal results of this study demonstrate that the ultimate effect of NAFTA on total US employment and the sectoral distribution of employment gains depend to a large extent on the pace of trade liberalization as well as the diversity of each region's industrial base. In addition, NAFTA's impact on employment levels varies across the time period considered in this study under both alternative scenarios. The following analysis highlights the study's most salient results:

1. Macroeconomic Impact

- NAFTA will have a positive impact on both the US and Mexican economies, although the macroeconomic impact is larger in Mexico, where the annual average gain in the rate of growth in the gross domestic product (GDP) is slightly below one percentage point; it is less than a quarter of a percentage point in the United States.
- Gradual implementation of trade liberalization between the United States and Mexico is better for both countries than the other alternatives, with the Nongradual scenario creating the most negative macroeconomic impact.
- The Gradual implementation scenario results in a moderate period of adjustment for both US and Mexican

industry which allows for a sustainable rate of expansion in both countries; sustained growth in Mexico will provide growing demand for US exports.

- The short-term economic impact differs from the long-term effects across scenarios: a Nongradual opening allows for faster growth in Mexico only in the first two years, subsequently weakening the economy and negatively affecting the long-term prospects for Mexico.

2. Trade Impact

- The impact of trade liberalization on both countries is realized in the long term in the case of the Gradual simulation. Trade has a larger short-term impact in the Nongradual case, but the results are not sustainable due to the impact of trade liberalization on macroeconomic growth in Mexico.

- The trade results parallel those for the macroeconomic picture: Gradual implementation of NAFTA results in a sustainable rate of growth for both exports and imports for each country, while a Nongradual implementation causes a rapid deterioration of Mexico's trade balance, thus forcing a deceleration of the economy, which has a longer-term effect on the future of US exports.

3. Employment Impact by Region and Industry

- The impact on US employment varies by region and industry, with some regions gaining more jobs than others; nevertheless, the overall impact is positive, although relatively small.

- Total Non-Agricultural Employment in the US will increase under either gradual or nongradual implementation of NAFTA. Under gradual implementation Total Non-Agricultural Employment will average 119,723,000 annually from 1993 and 2000; under nongradual implementation the annual average will be 199,622,000. Thus, overall gains in employment are 221,000 and 160,000 per year over the non-NAFTA Baseline annual average of 119,502,000.

- In general, those US regions which have a diversified manufacturing base and large current trade with Mexico obtain the greatest employment gains from NAFTA, while those states with relatively low trade and less diversified industries experience the slowest job growth.

- The Pacific Southwest, the West South Central, and the South Atlantic regions gain the most in employment levels in the medium term under the two alternative scenarios due to their broadly diversified industrial base and large trade and investment links with Mexico.

- New England, the Mid-Atlantic States, and the East North Central States have the narrowest industrial sector distribution and are among those that gain the least in employment levels in the medium term.

- The Pacific Northwest, East South Central and West North Central states enjoy low- to medium-term employment gains, despite their relatively broad sectoral distribution in production and employment.

- From a sectoral perspective, the largest employment level gains are registered in Trade, Services, Non-electrical Machinery, Electrical Machinery, and Transportation Equipment. Not coincidentally, these are also sectors with large participation in the *maquiladora* industry.[1] The sectoral results suggest that cross-country industrial integration via the *maquiladora* industry is likely to accelerate under NAFTA.

- Gains in employment levels in the medium term are fairly small in Furniture and Fixtures, Petroleum and Coal Products, Stone, Clay and Glass, Textile Mill Products, and Food and Beverages.

- In cross-scenario comparisons, Leather and Leather Products, and Mining experience decreases in employment levels in the medium term.

4. Policy Options

- Existing federal worker assistance programs will need to be more fully utilized in order to assist those workers temporarily dislocated by NAFTA-induced economic changes.

- Under both gradual and nongradual implementation scenarios of NAFTA, fewer workers will need dislocated worker assistance programs. When Trade Adjustment Assistance (TAA) programs are maintain separately from Economic Dislocation and Worker Assistance Act (EDWAA) programs, expenditures average $833.8 million per year from 1993 to 2000 under gradual implementation; under nongradual implementation the average is a slightly higher $839.5 million. When TAA is Merged Into EDWAA, average annual expenditures are $583.3 million under the gradual scenario and $587.2 under the nongradual scenario.

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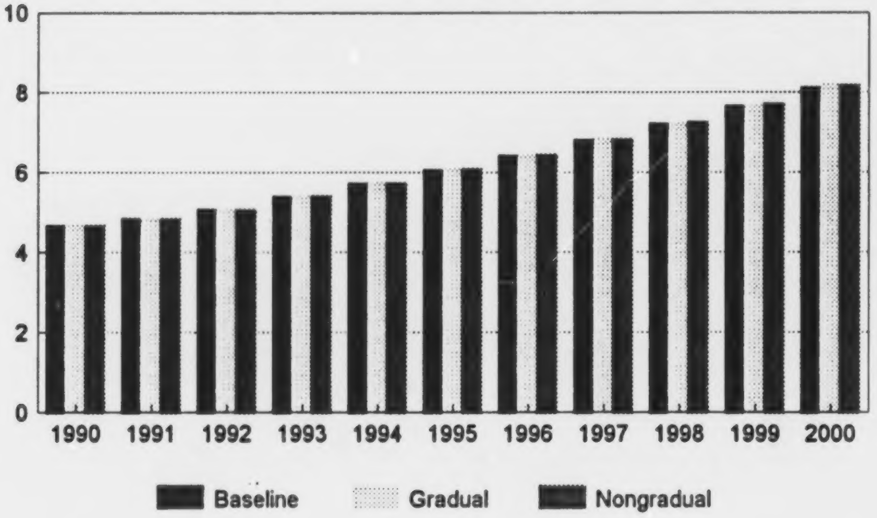
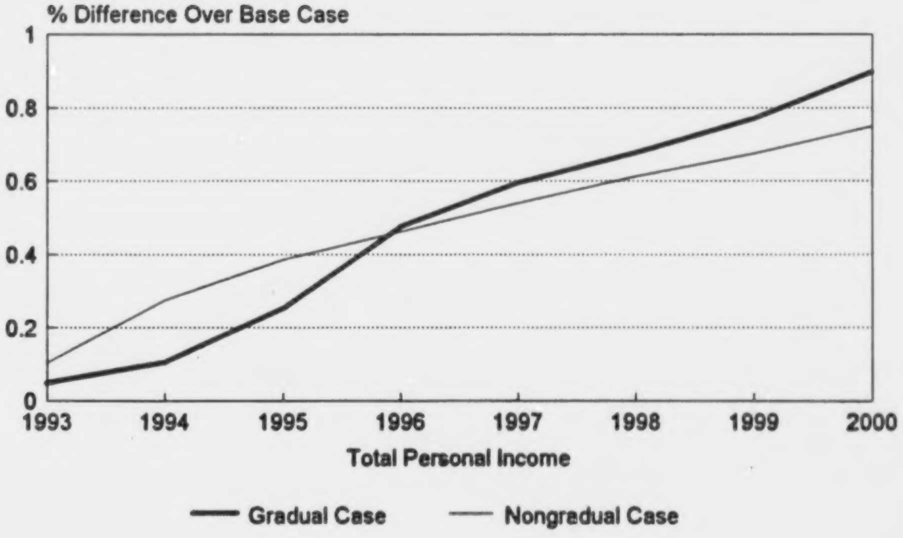
[1] *Maquiladoras* are twin-plant operations, also known as in-bond industries, usually located along the US-Mexican border. Components are exported into Mexico duty-free, and the final good is re-exported after assembly, with tariffs assessed only on the value-added in production.

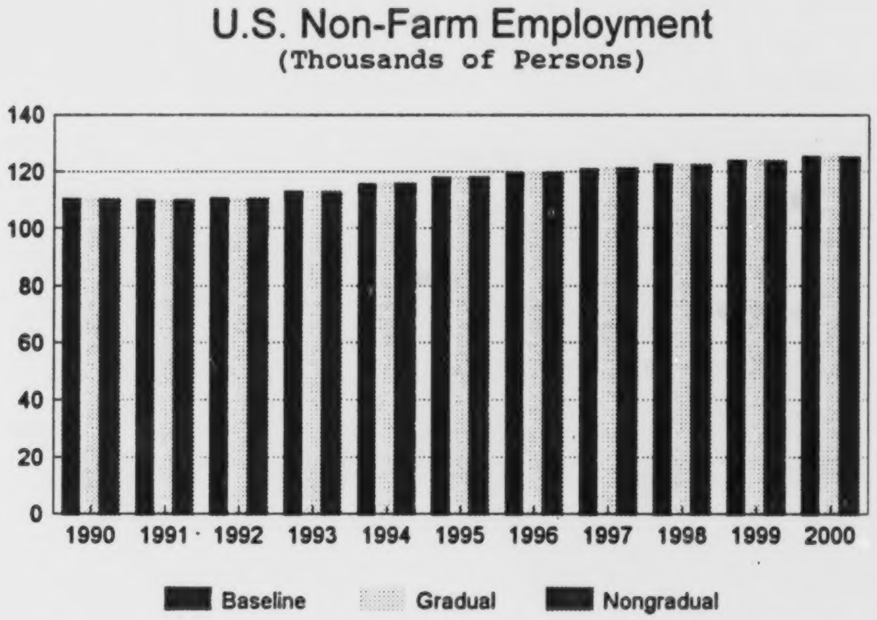
U.S. Personal Income

($ Billions)



U.S. Total




U.S. Non-Farm Employment
(Thousands of Persons)
140
120
100
80
60
40
20
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Baseline
Gradual
Nongradual

I. Introduction

This study analyzes the implications of the North American Free Trade Agreement (NAFTA) on US regional and sectoral employment, excluding the effects of Canadian participation in the Agreement. The study concentrates on the short-term impact of NAFTA on US-Mexican trade in specific production sectors and its effects on employment and income at the sectoral and regional level. It provides a detailed analysis of the response of regional and industrial trade patterns, including an overview of the macroeconomic effects on the US and Mexican economies as well as the prospects for future growth.

Policy options are provided for the pace of trade liberalization with Mexico that would prove to be more beneficial, or less adverse, to US workers. Based on this, the study discusses the impact of these changing conditions on the worker trade adjustment assistance programs, and offers options on how these programs can address the worker dislocation resulting from NAFTA.

The study is organized in nine sections. Chapter II describes the approach used in this study. Chapter III provides a macroeconomic background about trade liberalization process and the trade relations between the United States and Mexico. Chapter IV analyzes the macroeconomic effects of NAFTA on the US economy, while Chapter V focuses on NAFTA's impact on the Mexican economy. Chapter VI analyzes the study's major results regarding the effect of trade liberalization on US employment, by productive sectors, while Chapter VII does the same for US regions. Chapter VIII details the implications of NAFTA for federal worker adjustment assistance programs. Chapter IX concludes with a series of options for policies addressing potential disruptions to US employment, based on the main findings of the study. The appendices to the report provide a methodological note concerning DRI's econometric modeling techniques, and a brief description of DRI's macroeconomic models. A Statistical Appendix includes tables with detailed numerical results.

II. Approach

Principal Assumptions

The US, Canadian, and Mexican administrations negotiated NAFTA during 1991-92, and hope that 1993 will be the initial year of trade liberalization. The experiences of other free trade pacts, such as those between the United States and Canada, and the incorporation of Spain and Portugal into the European Community suggest that the dynamics of free trade eventually accelerate the liberalization process; as some immediate benefits begin to materialize in the short run, there are repeated calls for more rapid implementation.

NAFTA would probably not be such a case. As negotiated, NAFTA eliminates tariffs on most goods and services over a five- to ten-year implementation period. At the same time, full conversion to a free trade environment is scheduled to occur over a period of fifteen years, even though that would deny some of the short-term benefits and dilute the potential gains in competitiveness generated by free trade.

Trade between the United States and Mexico is already fairly open as a result of years of bilateral negotiations on particular trade issues which have resulted in so-called "framework agreements" in order to resolve trade disputes. Furthermore, Mexico has liberalized trade rapidly in the last four years, following its acceptance to the Generalized Agreement on Tariffs and Trade (GATT).

The average US tariff on imports from Mexico is less than 10%. Mexican average tariffs on US exports have been reduced to about 10%, while licensing requirements in Mexico have been eliminated almost completely. Some non-tariff barriers persist for specific products, however. The most significant ones are Mexican restrictions on foreign textiles and garments and on some metal industry products. Restrictions in the automobile sector are also significant, mostly involving investment requirements and self-sufficiency in foreign exchange for manufacturers. The United States imposes non-tariff barriers on Mexican agricultural products, particularly on fruits and vegetables, textiles, glass and cement, steel, and a few electronic components.

Scenarios

This study presents the results of three simulations based on assumptions that cover three fundamentals:

- Time span for full implementation of NAFTA,
- Speed of trade liberalization by industry,
- Date of completion of full liberalization.

The assumptions about these fundamentals were developed by DRI based on the most plausible scenarios at the time this study was conducted.

The analysis extends through the year 2000, and includes comparisons between two alternative free trade simulations and a Baseline where there is no free trade agreement.

Baseline

The Baseline ("BASELINE") scenario was constructed using current assumptions about policy and external influences on the US and Mexican economies, without including the free trade agreement. The outlook under this scenario assumes that present levels of trade protectionism in both countries will continue indefinitely.

Alternative Scenarios

Two alternative scenarios incorporate NAFTA, and both assume that NAFTA's implementation begins in 1993. They are compared to the Baseline scenario:

- **Rapid implementation of NAFTA:** "NONGRADUAL" scenario. The removal of all barriers to bilateral trade is immediate, and completed during 1993.

- **Gradual implementation of NAFTA:** "GRADUAL" scenario. Implementation of NAFTA would begin in January 1993, followed by a moderate ten-year period of tariff and non-tariff barrier dismantling across all industries. In this simulation, all sectors will be fully liberalized by the end of the implementation period. Tariff and non-tariff barriers are removed at different speeds across sectors over a ten-year period.

The three simulations examine the impact of NAFTA on non-agricultural employment at the regional and sectoral level. Detailed forecasts for agricultural employment are not produced here because Bureau of Labor Statistics (BLS) data for that category cannot be made compatible with the figures for non-farm employment. Although the BLS produces data for both categories, they are derived from different methodologies and surveys, which makes the series impossible to aggregate to a consistent total for civilian employment. Data for non-farm employment are available monthly and derived by place of work as survey of establishments. On the other hand, data for agricultural employment, which includes all civilian employment, is conducted as a survey of households. Its availability is also different from that for non-farm employment, as it usually lags the former by several months. That is why neither DRI's US macroeconomic model nor the regional models include forecasts for agricultural employment.

The nine regions included in this study follow the definitions of the Census Bureau, with the exception of the Western region, which is divided in DRI's regional model into two north-south areas, as opposed to east and west (coast and mountain) divisions. These nine regions include the following states:

- New England (NENG): Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island. and Vermont
- Middle Atlantic (MATL): New York, Pennsylvania and New Jersey
- South Atlantic (SATL): Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia and West Virginia
- East South Central (ESC): Alabama, Kentucky, Mississippi and Tennessee
- West South Central (WSC): Arkansas, Louisiana, Texas and Oklahoma
- East North Central (ENC): Illinois, Indiana, Ohio, Michigan and Wisconsin

- West North Central (WNC): Iowa, Kansas, Missouri, Minnesota, Nebraska, North Dakota and South Dakota
- Pacific Northwest (PNW): Alaska, Idaho, Montana, Oregon, Washington and Wyoming
- Pacific Southwest (PSW): Arizona, California, Colorado, Hawaii, New Mexico, Nevada and Utah

The breakdown of non-agricultural productive sectors is based on DRI's sectoral modeling structure. These include six non-manufacturing sectors at the 1-digit Standard Industrial Classification (SIC) level and 19 manufacturing sectors at the 2-digit SIC code level. The sectors are:

- Nonmanufacturing (1-digit SIC code)
    - Construction
    - Finance, Insurance and Real Estate
    - Trade
    - Transportation and Utilities
    - Services
    - Mining

- Manufacturing (2-digit SIC code)
    - Food and Products
    - Textile Mill Products
    - Apparel and Products
    - Lumber and Wood Products
    - Furniture and Fixtures
    - Paper and Products
    - Printing and Publishing
    - Chemicals and Products
    - Petroleum and Coal Products
    - Rubber and Plastics
    - Leather and Products
    - Stone, Clay and Glass
    - Primary Metals
    - Fabricated Metal Products
    - Non electrical Machinery
    - Electrical Machinery
    - Transportation Equipment
    - Instruments
    - Miscellaneous

The existence of a wide variety of barriers over a broadly disaggregated set of products would have made it impossible to produce meaningful calculations on a product-by-product basis within the scope of this project. Therefore, each country's tariffs on imports were calculated based on information available for the merchandise sectors analyzed in this study. Similarly, non-tariff barriers were estimated for use in the model based on available information for these industries. The breakdown of assumptions about the pace and extent of liberalization in the sectors described below was based on the sectoral classification imposed on the Mexican model by the aggregation available in Mexican trade data. Therefore, the sector breakdown does not exactly correspond to the sectoral classification of the results on US employment presented elsewhere in the study.

Both the US and regional models later disaggregated these export and import categories from Mexico into the classification referred to in the study. The degree of current protection was calculated by DRI for the aggregates based on the best approximation to the current tariff structure at such aggregate level.

Agriculture: The average tariff applied by Mexico to imports of agricultural products from the United States was 11% in 1989. In turn, the average US tariff for this category was 7%, applied to about 40% of imports from Mexico. More important, however, are the non-tariff barriers that currently exist against a variety of Mexican products, particularly seasonal fruits and vegetables. Bilateral negotiations have resulted in a partial dismantling of some of those barriers. On the other hand, Mexico's imports of agricultural products from the United States consist primarily of grains and meat that supplement Mexican production. The erratic behavior of these imports over the last several years and the unpredictability of their future growth based on past trends has made it necessary to set the values of this variable out of the models; its nominal value is assumed to increase 8% per year from 1991 to 2000.

Mining, Oil and Gas: Barriers to trade in mining products are negligible between the two countries. In this case, trade takes place mostly in those mining products where there is competitive advantage. Therefore, mining exports and imports have also been determined independently.

Oil and gas are also subject to insignificant levies. Mexico imports natural gas from the United States, but typically only to supplement supplies in the border states. The insignificant amounts and the relatively stable quantities traded contributed to make the category of US oil and gas exports to Mexico a variable whose values were also set independently. US crude oil imports from Mexico, on the other hand, depend mostly on Mexican production and oil policy. A stated policy during the 1970s was that Mexican crude oil exports to a single country would never exceed more than 50% of total crude oil exports. However, crude oil exports to the United States have been more than 60% during the last few years. Mexican crude oil exports have been set independently at 65% of total crude exports.

Food, Beverages, and Tobacco: Mexico has higher tariffs than the United States on imports within this category. Mexican tariffs average 20%, while the US tariffs average only 3%. It must be kept in mind, however, that certain products in this category could be liberalized sooner than NAFTA would allow if the Mexican government decides to use imports of these products as a lever against domestic inflation.

Textiles, Garments, and Leather Goods: This is one of the most protected and controversial industries involved in US-Mexican trade. Both countries apply some of their relatively highest tariffs to these goods, and employ non-tariff barriers in selected products. Moves towards liberalization have already begun, but opposition to full elimination of barriers is strong in the United States. Average Mexican tariffs on imports from the United States are 12%, while the US average tariff is 6%. Both countries have non-tariff barriers in these categories. At the same time, *maquiladora* production is important, making this industrial sector the third largest contributor to *maquiladora*-related trade.

Wood, Wood Products, Paper, Paper Products, Printing and Publishing: These major sectors are largely free of tariffs. Non-tariff barriers that existed for some particular products, such as restrictions on imports of newsprint in Mexico, have been dismantled recently.

Chemicals, Oil Derivatives, and Rubber and Plastic: Tariffs on imports of these categories are higher in Mexico than in the United States. Most of Mexico's non-tariff barriers are investment-related, and restrict a few products in basic petrochemicals to the exclusive investment of the state oil company, PEMEX. There has been a move to deregulate more petrochemical products and to expand the list of secondary petrochemicals where private investment can take place. Average Mexican tariffs on imports of chemical products from the United States are about 15%, while the average US tariffs are 4%. The recent moves in Mexico to lower regulations in the sector indicate that further opening to trade and competition could occur relatively fast. On the US side, tariffs are already relatively insignificant.

Nonmetal Minerals and Metals Manufacturing: This category suffers from relatively high tariff and non-tariff protection in both countries in specific products, such as cement and glass. Tariffs in Mexico and the United States can reach as high as 22%. Given that this category also includes metal manufacturing, where there is a great deal of *maquiladora* activity, tariffs average only 10% in each country. There are highly competitive Mexican companies in this sector, which would tend to gain more from NAFTA than other companies. On the other hand, US producers may press to maintain tariff barriers for a slightly longer period of time, due to recent anti-dumping charges in some of these products.

Basic Metals and Products: Tariffs in this sector are generally low, although significant non-tariff barriers exist in both countries for specific products, such as some types of steel. These barriers are in place as quotas that restrict imports to a certain percentage of total domestic production in either Mexico or the United States. Average Mexican tariffs are about 10%, while average tariffs in the United States are as low as 0.5%.

Machinery and Equipment: The US tariffs in this sector are very low because of the importance of electronic equipment and auto parts in imports from *maquiladora* activity in Mexico. On the other hand, Mexico maintains relatively high tariffs (as high as 20%) on some products in this category. Also, non-tariff barriers to automobiles remain and are restrictive, particularly for producers. Mexico is moving to liberalize the automobile sector in the medium term, but it is likely that such liberalization will take place selectively in specific models and automobile groups. Free trade in this sector may be in the best interest of US companies eager to have access to products originating in Mexico with relatively low production costs.

Other Manufacturing Products: Most of the products in this category are nonclassified and encompass a few consumer products, which suggests a wide variety of articles with different protection levels. The current trade classification does not provide a detailed listing of typical products; therefore, this forced the imposition of determined tariff protection rates independently.

III. Background on NAFTA

The Bush Administration, with bipartisan support from influential members of Congress, is actively pursuing a strategy that would integrate North American markets. The United States entered an agreement with Canada in 1989 to gradually abolish existing tariffs. A similar agreement with Mexico could eventually ensure American business access to a $6 trillion market with 360 million people, larger than the EC under both criteria. In the worst case, such an agreement could offset the adverse effects of increasing global protectionism if GATT talks fail; more optimistically, it could help Mexican development and increase demand for US exports, an increasingly important component of US economic growth.

The classical economic argument for free trade maintains that each partner can increase its gains from trade by specializing in the sectors in which it enjoys a comparative advantage-- a "win-win" situation. Since the gains from trade increase with greater differences in relative factor intensity, the payoff from NAFTA lowering barriers between the capital-intensive US (in terms of both equipment and skills) and the labor-intensive Mexican export sectors is potentially large.

A major reason for interest in a potential NAFTA is the clear benefit to the US economy of current trade with Mexico. Mexico is currently the third largest export market for the US, following only Canada and Japan. Mexico's demand for US exports depends on its own economic growth. During the 1970s oil-price boom, Mexican imports of US goods expanded at a 50% average annual rate, but when oil prices softened, the ensuing debt crisis stalled Mexican growth and imports dropped. For instance, US exports to Mexico dropped by 50% in only an 18-month period between 1982 and 1983, with an ensuing loss of jobs in the United States calculated at 259,000 workers by the US Department of Commerce. Recent economic reforms have begun to revive Mexican economic growth, however, and imports of US goods reached $27.3 billion dollars in 1990. Moreover, with the growth of the Mexican economy, imports from the United States have shifted toward consumer goods and electrical equipment, especially computers and data processing equipment. As more exports mean higher employment, there were an estimated 675,000 jobs attributable to Mexican imports of American-made goods in 1990.

For its part, Mexico needs capital to stimulate growth and job creation, and has liberalized foreign investment restrictions as part of the recent reforms. Roughly 65% of new foreign investment in Mexico comes from US businesses. In addition, NAFTA would encourage Mexican growth by lowering the cost of imported capital goods and intermediate inputs to production. In fact, the "maquiladora" program-- twin plants, mostly along the border, where Mexican assembly adds value to components imported from the US and then re-exported to the US with only the value-added component subject to tariffs-- accounts for roughly 40% of US imports from Mexico. By locking in Mexico's recent increased openness to trade and investment, NAFTA would increase US investment in Mexico. At the same time, Mexico's free access to US markets would also foster investment from other countries.

In the long run, to the extent that NAFTA contributes to Mexican growth and stability, the United States will benefit. Illegal immigration into the United States, currently a "safety valve" for the Mexican economy, would undoubtedly slow significantly with more rapid expansion of employment. Economic modernization would almost certainly foster democracy in Mexico and a closer diplomatic alliance between the two countries. Finally, growing Mexican incomes would increase demand for US-produced goods and services, contributing to US economic strength.

Under NAFTA, both the United States and Mexico will be able to specialize in the production of goods for which they have a comparative advantage. Whereas the United States may concentrate its production efforts on more capital-intensive industries or those which employ highly-skilled workers, Mexican industry will likely focus on goods that utilize a lower-wage, lower-skilled work force. American consumers would benefit from lower priced Mexican goods. With protectionism eliminated, the prices of goods like sugar, apparel, furniture, citrus crops and vegetables would be less expensive for consumers.

Investment in both countries should increase as each pursues the reorganization and enhancement of its productive capacity. National income should also rise, particularly in Mexico. These macroeconomic improvements are due not only to the trade-linked changes emerging under NAFTA, but also through the privatization of Mexico's public corporations and through the deregulation of the private sector.

US and Mexican consumers would be one of the principal beneficiary groups under either NAFTA-related scenario. The US consumer may take advantage of lower-priced Mexican goods, such as commodities, apparel, and furniture, and the Mexican consumer should find not only a greater variety of goods, but also products with more advanced technology and efficiency.

The final agreement may produce less spectacular results at the macroeconomic level than currently anticipated. Trade between the three countries is already fairly open, and the economies' relative size suggests that the overall impact will be stronger in Mexico than in the United States or Canada. Also, currently low trade flows between Canada and Mexico suggest that the commercial impact on bilateral trade between the two countries will be small. However, the significant differential in labor costs between the United States and Canada, on one hand, and Mexico, on the other, indicates that NAFTA will have a varied effect across industries depending on their relative labor intensity. Moreover, the short term impact of free trade will also be different across US geographical regions.

Although there are potential advantages to both sides from NAFTA, there are also risks. The eventual ratification of NAFTA will depend on how well the negotiators deal with key issues raised by the differences between the two economies. For instance, the environmental impact of NAFTA is a sensitive issue. Mexico has been lax in enforcing rules to protect the environment, workers, and consumers from the adverse affects of industrial production. Therefore, NAFTA raises the possibility that industries could relocate to Mexico to avoid the cost of complying with relatively stringent US regulations, putting US consumers and the regional environment at risk. Competition from Mexican manufactures could also create pressure to relax US environmental standards. To counter these objections, the Bush Administration has promised that NAFTA will permit the United States to bar imports of products that do not meet current environmental, health, and safety standards. Moreover, because a cleaner environment entails public and private costs, supporters of NAFTA argue that increasing Mexico's standard of living is the best way to encourage more rigorous environmental standards.

More broadly controversial is the potential impact on US jobs. Real wages in Mexico average roughly one-tenth the US level, so there will be an added incentive to funnel new investment to Mexico and even relocate existing production there to reduce costs. This could cost jobs and slow real wage growth in the affected sectors, especially in relatively high-wage, heavily unionized areas of the United States. In general, regions close to Mexico and those with lower wage levels are expected to benefit, while more heavily unionized high-wage areas may experience adverse effects in particular sectors.

On the other hand, Mexican modernization will increase demand for business and financial services, and computers and telecommunication equipment, strengthening these key sectors of the US economy and their ability to compete in other international markets. More broadly, lower-priced imports will also help moderate consumer price rises, buoying overall demand and stimulating employment and income growth.

Some of the most potentially disruptive consequences of NAFTA are certain to be precluded from the agreement during the negotiation process. Mexico will almost certainly prohibit US participation in the state-owned oil industry. The US will require restrictions on labor movements between countries to rule out a northward flood of job-seekers that could undercut the employment and earning power of American workers in low-skill occupations. Similarly, restrictions on the origin of components will be imposed to prevent "back door" access to US markets by third-party investors hoping to bypass tariffs.

Even so, there will almost certainly be some sectors and regions of the United States that could be adversely affected. The Bush Administration has announced that it will negotiate to have a number of measures incorporated into the pact to lessen adverse effects. The Administration has also promised to provide assistance to workers who lose their job because of NAFTA, although the exact mechanism has yet to be decided. There are three options: the Trade Adjustment Act (TAA), which would provide extended unemployment benefits to workers whose jobs shift abroad; the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA), which would provide job retraining; or some new program tailored to the needs of NAFTA.

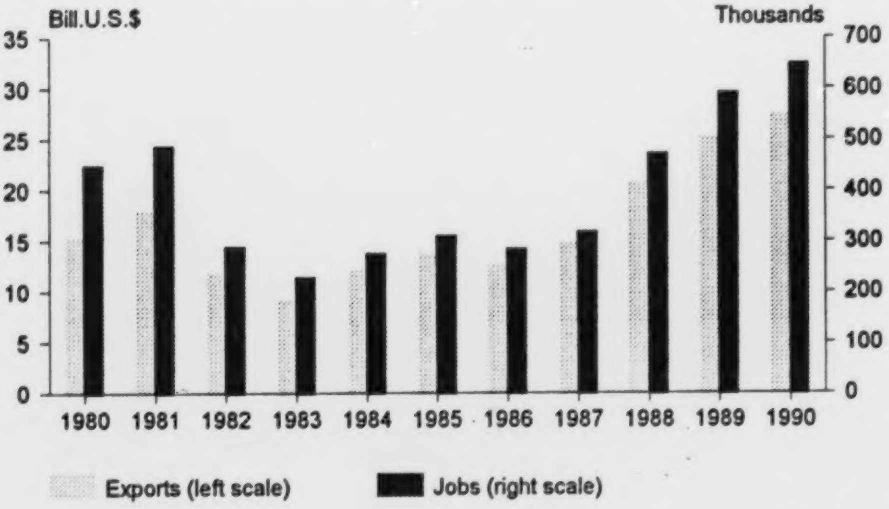
U.S. Exports to Mexico

	1980		1990	
	Bill.$	%	Bill.$	%
TOTAL EXPORTS	14.66	100.0	27.40	100.0
• Grain	1.29	8.8	1.00	4.4
• Heavy Ind.Mach.	0.93	6.4	0.80	2.9
• Light Ind.Mach.	1.28	8.7	2.10	8.1
• Moto./Auto Part	1.11	7.6	2.90	8.2
• Electrical Equipm.	1.51	10.3	5.80	22.2
• Consumer Goods	0.96	6.5	3.50	12.4

U.S. Imports From Mexico

	1980		1990	
	Bill.$	%	Bill.$	%
TOTAL IMPORTS	12.77	100.0	30.30	100.0
• Crude Oil	6.03	47.2	4.80	15.8
• Light Ind.Mach.	0.17	1.4	1.70	5.6
• Automobiles	0.00	0.0	1.80	6.0
• Moto./Auto Part	0.19	1.5	1.30	4.4
• Electrical Equipm.	1.65	12.9	8.00	26.4
• Consumer Goods	0.94	7.4	3.50	11.6

U.S. Exports to Mexico Create U.S. Jobs



IV. Macroeconomic Impact on the United States

Background

While the US economy has experienced five consecutive quarters of economic growth since the end of the 1990-91 recession, the recovery has proven unprecedentedly sluggish, with quarterly growth reaching only 1.5% on an annual basis. The reasons for this weak recovery in part are due to the country's high level of debt, fiscal policy stalemate, and monetary policy. A policy of pursuing low inflation and historically low interest rates has been unable to generate a sustainable level of robust activity.

The traditional motors of economic recovery appear incapable or unwilling to lead the economy on a consistent growth trend. Construction activity is weak, particularly due to the glut of vacant office space, which has sustained a negative impact on US employment levels. While construction has traditionally supplied nearly 10% of new jobs in the first year of the average postwar recovery, over the last year construction employment has actually fallen. Consumers have expressed lagging confidence in the economy which, coupled with weak income growth, has limited their influence in the current recovery period. Rising civilian unemployment, which is expected to peak in the third quarter of 1992, provides a further explanation for the relative inability of the consumer to stimulate the economy's expansion. Further consumer spending growth depends on income gains, which ultimately require employment increases.

On a more optimistic note, investment should be the next engine of growth, as the eventual need to replace and upgrade equipment will propel business spending. At the same time, housing is already beginning to respond to lower mortgage rates and should contribute to the recovery, although not at the same rate as during past expansions. Finally, exports, which have been the fastest-growing sector of the economy since 1986, should continue to outpace domestic production. Despite the current weakness in several of the industrialized economies, the soft dollar and growing demand from the developing world are expected to boost US market share. DRI still expects the economy to grow, but at slow enough a pace as to generate very few employment gains in the short term.

Baseline Scenario

The Baseline scenario was established under the assumption that no free trade agreement is enacted between the United States and Mexico. It relies on the current set of policy and external constraints facing both countries, and presumes that no further trade liberalization occurs between the two countries.

Under the Baseline forecast, the US economy experiences increases economic activity in 1993, which appears to spell an end to the anemic growth of the last year. While both consumer and business spending expand over the forecast period, investment is expected to fuel the economy's expansion throughout the first three years, and strong export growth over the decade provides a continued impetus to activity. Moreover, the diminishing federal budget deficit, which falls from 6.1% of nominal GNP in 1992 to only

1.9% by 2000, becomes much less of a burden on economic growth as the forecast period progresses.

The upswing in economic activity in the first years of the forecast succeeds in reducing the civilian unemployment rate and raising the level of nonfarm employment. The unemployment rate begins to fall immediately and reaches a floor of 5.6% by 1995 before stabilizing at roughly 5.7% for the remainder of the decade. Total nonfarm employment grows 12.3 million between 1993 and 2000, with the bulk of the gains emerging in the services and trade sectors. Nonfarm employment growth experiences its strongest performance in 1994, growing by 2.4%; it declines steadily thereafter, growing by only 1.0% in 2000. Real disposable income follows the general growth trend of nonfarm employment, peaking at 2.8% in 1993 before trailing off to 1.7% growth in 2000.

The decline in unemployment helps to produce upward pressure on nominal wages over the decade. Consumer price inflation follows the same accelerating trend over the forecast period, although growing at a slower pace than wages. Short-term interest rates are expected to accelerate immediately in 1993, and remain approximately 1.0 percentage points over their 1992 levels through 2000. The combination of these factors works to retard economic growth by the end of the decade, at which time the economy is expected to return to a relatively moderate pace of growth.

Two Alternative Scenarios

The Gradual Case

The Gradual implementation of NAFTA would have a greater positive impact on the United States than a sudden removal of trade barriers with Mexico. The primary effect of the Agreement is to increase the overall level of both US exports and imports. In the Gradual case, the full effect of the changes is felt after five years, by which time 1982-dollar exports are 2.8% higher, and 1982-dollar imports 1.5% higher than in the Baseline.

As real (inflation-adjusted) exports increase more than real imports, domestic production and employment rise. The maximum effect occurs four years after the phase-in begins, when 1982-dollar gross national product (GNP) rises 0.6% over the Baseline. Consumption and business spending experience a favorable impact, although real government spending and residential construction withstand only marginal changes. Personal consumption increases 0.2% in real terms while business fixed investment, which benefits from the positive impact of faster economic activity, is up almost a full percentage point.

Since the change to net exports has a minor impact on aggregate supply, the higher level of economic activity reduces unemployment and raises inflation. A more constant number of American jobs would be created in the long run and the level of total nonfarm employment would not fall below the Baseline. Between 1993 and 1996, the Gradual scenario would add an average 222,000 jobs per year, which is slightly less than the annual gains under the Nongradual scenario. However, total nonfarm employment in 2000 under the Gradual alternative still exceeds the total employment level in the Baseline case by 95,000 more jobs. The Gradual scenario will allow both the United States and Mexico to adapt to a new trading environment, therefore, eliminating the sudden disruption of jobs in the United States. Mexico would also benefit from having more time to increase its productivity; therefore, it would compete more effectively in the American market. Although the Nongradual scenario creates more jobs immediately (between 1993 and 1996), the overall economic gains are larger with a gradual lifting of trade barriers over the decade. The civilian unemployment rate falls 0.2 percentage points below the Baseline in 1996, raising the rate of wage inflation by a similar 0.2 percentage points.

Consumer price inflation rises just 0.1 percentage points, however, because productivity improves through the higher level of domestic production.

The Gradual scenario assumes that the Federal Reserve Board partially accommodates the increase in output and prices. The level of non-borrowed reserves is held unchanged at the Baseline level, permitting some increase in the money supply, but not enough to prevent interest rates from rising. Indeed, short-term interest rates are about 0.25 percentage points above Baseline levels in 1996, while the 10-year government bond yield increases by about half that amount. The higher nominal economy and partially accommodative policy keep interest rates above Baseline levels throughout the remainder of the solution interval; by 2000, short-term rates are up around half a percentage point, while long-term yields are approximately 0.12 percentage points higher.

The increase in inflation and interest rates subsequently retards aggregate demand, particularly business investment, and reduces the overall effect on economic activity. By 2000, 1982-dollar GNP is only $8.5 billion (0.2%) above the Baseline, and the unemployment rate is virtually back to its Baseline level. Wage gains are still proceeding 0.2 percentage point per year faster than in the Baseline, however, as the temporary dip in unemployment causes a permanent increase in inflation.

The Nongradual Case

As in the Gradual scenario, the primary effect of the agreement under the Nongradual scenario is to raise permanently the level of inflation-adjusted-dollar exports and imports. Not surprisingly, the full effect of the changes on exports is felt somewhat sooner in this case, with 1982-dollar exports up 2.0% after only three years. Real imports grow approximately 1.0% over the same interval and plateau there for another two years before beginning to rise again as Mexican industry recovers from the initial impact of the Agreement. By the year 2000, constant dollar imports are 1.4% above the Baseline.

Domestic production and employment also rise in the Nongradual scenario. The maximum impact occurs in the second year after the Agreement takes effect, when US GNP increases by 0.4%. All components of aggregate demand expand, although the impact on residential investment and government spending is trivially small. Real consumption grows 0.2%, while business fixed investment jumps 0.8%. Given the expansion of aggregate demand, unemployment declines in the early part of the forecast period and inflation begins to accelerate although at a slower rate than in the Gradual scenario. The civilian unemployment rate falls a little less than 0.2 percentage points below the Baseline in 1994, raising the rate of wage inflation by 0.1 percentage points. Similar effects are observed on consumer price inflation.

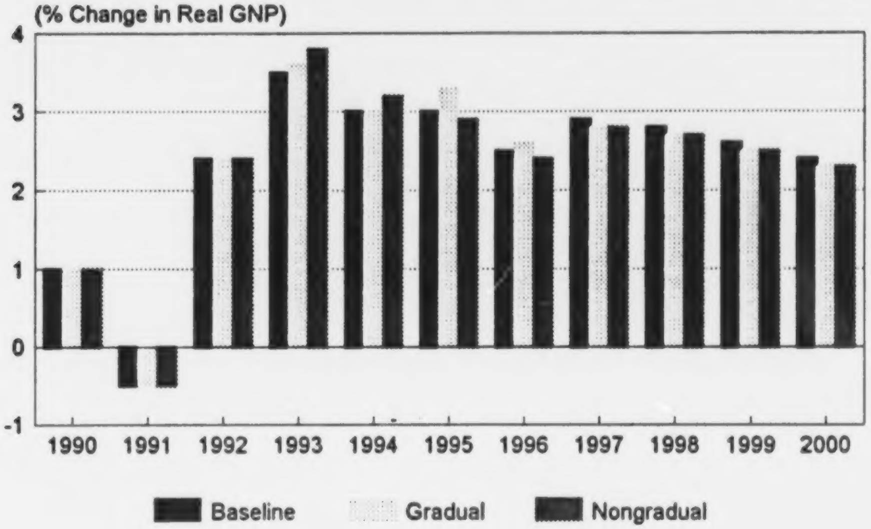
In the Nongradual version, the United States' total nonfarm employment would gain an average 160,000 new jobs annually over the 1993-2000 period compared to the gains under the Baseline. The rapid rate of employment growth rapidly decelerates, and the level of employment ends below the Baseline scenario in the latter part of the decade. In fact, the United States would have 43,000 fewer jobs in 2000 under the Nongradual scenario than in the Baseline. Once Mexico can improve its infrastructure and American companies are able to take advantage of Mexico's low labor costs, jobs in labor-intensive industries in the United States, such as textiles, apparel, and leather, could be threatened by a potential transfer of some of that production to Mexico.

Again, we assume that both the money supply and interest rates rise. In 1994, short-term rates increase by approximately 0.2 percentage points while bond yields are a mere 0.5 percentage points higher. By 2000, short-term rates are up over almost 0.16 percentage points, and bond yields up over 0.3 percentage points.

The uptick of interest rates, and the acceleration of inflation work to retard aggregate demand over the longer term. By 2000, 1982-dollar GNP and the unemployment rate have returned to their Baseline levels. The rate of wage and price inflation, however, continues at a slightly faster pace.

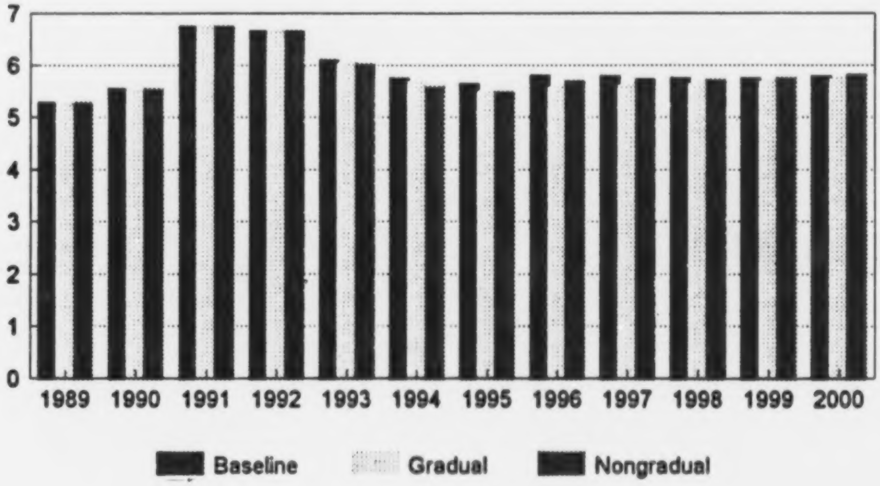
Despite the increase in imports over the last three years of the solution interval, the Agreement leads to a consistent improvement in the US balance of payments. The Federal deficit also benefits for the six years after the Agreement is signed, as the higher level of economic activity boosts tax revenue. By 1999, however, the Federal deficit deteriorates relative to the Baseline, as activity dips, while interest rates remain slightly higher.

U.S. Economic Growth

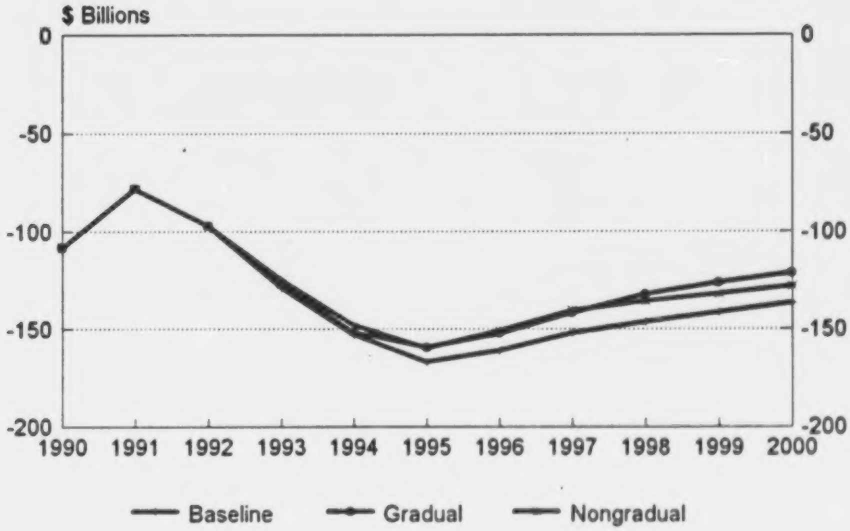


U.S. Unemployment

(%)



U.S. Merchandise Trade Balance



V. The Macroeconomic Impact on Mexico

Background

The Mexican economy has undergone a series of market-oriented economic reforms that are contributing to a much-needed recovery after the years of crisis during the 1980s. In general, these reforms aim at deregulation, with a reduction of the government sector's participation in the economy, as well as stabilization of inflation. The results of these reforms are already apparent. Private investment, both domestic and foreign, is rapidly increasing, spearheading a moderate and sustainable recovery. Economic growth has averaged more than 3% during the last four years, surpassing population growth, and therefore allowing a recovery in per capita income. Employment levels have not recovered substantially, however, and labor compensation has continued to lag behind inflation.

On the other hand, the public sector surplus, after having registered a deficit equivalent to more than 15% of GDP only four years ago, suggests that this recovery is sustainable and inflation remains under control. Growth in 1991 was 3.6%, while inflation continued its downward trend, ending the year at 19%. Although the government has projected growth to be only 3% in 1992, it is quite possible that the strength of the private sector could stimulate productive activity enough for the economy to grow by 4%. Inflation, on the other hand, is likely to exceed the government's single-digit projection, although consumer prices should not rise more than 12%.

The recovery is not without risks, however. In the process of bringing inflation under control, the Mexican peso has strengthened in real terms. At the same time, pent-up demand for investment goods, particularly within the private sector, is rapidly stimulating demand for imports, therefore giving rise to growing trade and current account deficits. These deficits have been financed easily in the last two years by record inflows of foreign resources and capital repatriation. The concern remains, however, that such deficits might become unsustainable in the medium term, thus forcing corrections to current strategies, including the exchange rate policy and the process of trade liberalization. Another potential risk is that the economy is forcibly decelerated in order to reduce demand for imports, although this would probably send the wrong signals to investors who are currently benefiting from the growth potential of the country.

NAFTA negotiations are proceeding in this environment. Although the Agreement is significant, it is important to remember that the trade liberalization process is only one part of the economic reforms mentioned above. While it is widely believed that NAFTA would provide the Mexican reform program with a degree of institutional irreversibility, it must also be recognized that most of the Agreement's impact on the Mexican economy is likely to derive from investors' attitudes.

The impact of trade liberalization has already been anticipated to some extent. The

Mexican government has been opening the economy unilaterally since 1986, just before its incorporation into the GATT, and as a result, tariffs have been greatly reduced while non-tariff barriers have been practically eliminated. Furthermore, Mexican exports to the United States already enjoy relatively open access, either through the Generalized System of Preferences, or as exports of *maquiladora* products.

Imports have outpaced exports in the last three years due, in part, to the appreciation of the Mexican currency, the recovery of the domestic economy, and the deceleration of foreign demand in its major markets, including the United States. An equivalent export boom has not materialized, however. Although manufactured exports have increased rapidly, overall merchandise export growth has not kept pace with imports. In general, Mexico's export base has shifted toward more industrial products, mostly manufactures. Consequently, only 27% of Mexican exports are represented by crude oil, compared to almost 40% at the end of the 1970s.

Mexico depends largely on the US market for its foreign trade. An average of as much as 75% of Mexican exports and 55% of imports were traded with the United States during the last year. About half of total crude oil exports and more than 95% of *maquiladora* activity are connected with that market. The *maquiladora* sector is now the second largest source of foreign revenue, after oil exports. It represents about 40% of total US-Mexico merchandise trade, as reported by the United States. (Mexico reports only net exports of *maquiladora* services, apart from its non-*maquiladora* merchandise exports and imports. The United States reports total merchandise trade with Mexico, including exports of components for the *maquiladora* industry and re-imports of assembled components.) In 1991, total US-Mexico trade amounted to $40 billion, as reported by Mexico, or $56 billion as reported by the United States, with a trade balance that favored the United States, for the first time in more than 12 years. In total, about 7% of the Mexican GDP is linked to the performance of the US economy.

The Impact of NAFTA on Mexico

Free trade with the United States and Canada would reduce or eliminate existing trade protectionism between those two countries and Mexico. It is important to recognize, however, that trade between Canada and Mexico is very small, amounting to approximately $2 billion during 1991. NAFTA's impact, therefore, is expected to come mainly through investment growth, the solidification of economic reforms, and medium- to long-term opportunities for Mexican exports.

DRI's **Baseline simulation** suggests that the Mexican economy has enough momentum to sustain growth rates averaging close to 5% over the long term. If NAFTA is not approved under this scenario, however, the simulation predicts a deceleration of economic activity, falling below 3% in 1993 and only climbing slowly through 2000. The main drag on the economy would be the loss of momentum in investment, which would slow to growth rates in mid-single digits. Industrial productivity would also decline, thus jeopardizing high growth prospects in the long run.

A salient result under this scenario is the sluggish growth in exports and imports, although it must be kept in mind that the trade results in this case would reflect overall growth in domestic and foreign demand rather than a lack of trade liberalization. The trade deficit would be relatively small, however, peaking at below $15 billion by 1997. The deficit in bilateral trade with the United States would reach a maximum of $6.5 billion that year as well.

The phased-in implementation of NAFTA in the **Gradual scenario** definitely offers the most positive results for Mexico. It would provide Mexican industry with a needed transition period in which to adapt to foreign competition, and therefore result in a more consistent and sustainable rate of growth. In fact, the economy grows almost uninterruptedly throughout the decade, reaching 7.5% in 1999. Quite noticeably, real investment growth reaches double-digits by 1995, while employment gains accelerate to annual rates above 4% after 1995, thus alleviating Mexico's unemployment. Although the tightness in the labor market puts pressure on wages, growth in industrial production allows productivity gains that exceed those of the other two scenarios, resulting in lower increases in unit labor costs than in the Baseline scenario.

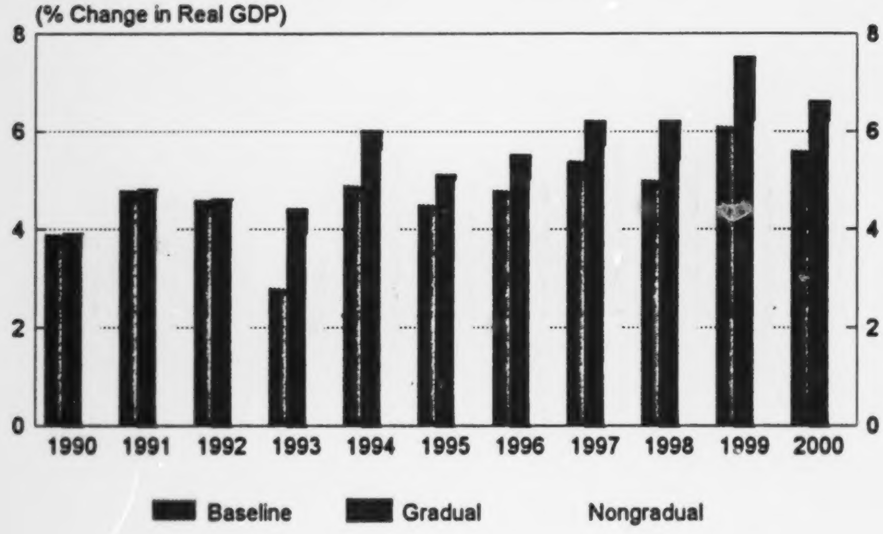
The Gradual opening to competition results in a persistent climb in exports and imports and a larger trade imbalance in the long run. Although this scenario helps the US economy to grow at a slightly accelerated rate, thus offering relatively steady demand for Mexican exports, the relatively faster Mexican economic activity results in increased demand for imports. The trade growth imbalance culminates in a $17 billion total trade deficit by 2000. The corresponding deficit in bilateral US-Mexico trade is almost $10 billion. This result occurs despite exports and imports reaching their highest levels among all scenarios. It is assumed that the positive impact on investors' perceptions about the economy allows Mexico to capture enough foreign capital through foreign investment in order to finance these deficits.

In contrast, the sudden and complete liberalization of trade with the United States in the **Nongradual environment** would offer Mexico the most challenging economic scenario, one that would necessitate some major correction to economic policy in the medium term, including perhaps a major devaluation or even a temporary reversal of the opening process. Growth rates exceed those of the Baseline because of NAFTA prospects, which help to maintain investment levels in the short term. These quickly decelerate below similar rates under the Gradual scenario, however, thus allowing growth to peak at only 5.2% by 2000. Similarly, employment creation takes place at a slower pace than under the Gradual scenario, although this also helps to reduce pressure on wages at lower rates than under the other two cases.

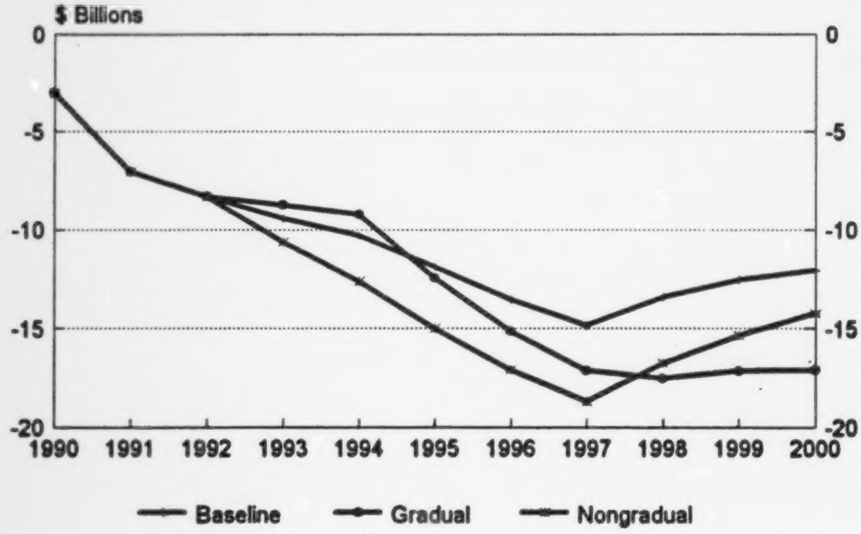
The trade results deriving from the Nongradual scenario differ dramatically from the Gradual case. Demand for imports is particularly strong in the first two years of the opening, due to pent-up demand and the still relatively high rates of growth. Imports soon decelerate, however, as the economy slows under the pressure of foreign competition, which reduces the incentive to investment in the short term. By 2000, total imports are actually below those of the

Gradual scenario. Exports exhibit a similar pattern, with very high levels in the period immediately after the initial opening, followed by a rapid moderation that brings their overall levels to figures below those in the Gradual case. As a result, the trade deficit exceeds the results in the other two simulations in each year through 1997; thereafter, the deficit falls below the Gradual scenario imbalance. In the case of bilateral trade with the United States, however, large deficits are reached immediately, and these consistently exceed the imbalance recorded under the other two simulations.

Mexican Economic Growth



Mexican Trade Balance



VI. The Effect of NAFTA on Sectoral Employment

The economic impact of NAFTA on US employment levels will differ broadly across industrial sectors, and will also depend on the speed of the Agreement's implementation. While the United States as a whole is expected to achieve net employment gains on an annual average basis under either NAFTA simulation, certain industries will experience employment creation throughout the period under consideration, at the same time that other sectors actually lose jobs compared with the Baseline scenario. In general, the phased-in implementation of NAFTA envisioned under the Gradual scenario produces consistently greater employment gains and smaller losses than would an immediate conversion to free trade as described in the Nongradual alternative, principally because the Gradual scenario allows US industries a longer transition period in which to make the adjustments to their competitive positions.

In a NAFTA environment, the US nonelectrical machinery industry, which includes computers, office equipment, engines, and construction machinery, would experience one of the largest manufacturing employment gains of all the sectors studied. NAFTA's positive employment impact on this sector is due primarily to the anticipated growing demand from Mexico for US computer and office equipment goods that would allow Mexican industry to improve its automation and compete effectively in the US market. As illustrated in tables 11 thru 37 in the Statistical appendix, under both the Gradual and Nongradual scenarios, the nonelectrical machinery industry experiences important employment gains compared with the Baseline over the life of the simulation period. The principal difference between the two alternatives centers on the timing of the industry's gains. In the Gradual case, employment peaks at 42,400 additional jobs over the Baseline in 1996, and by 2000 almost 21,000 additional people are employed in this industry. In contrast, employment creation in the Nongradual scenario accelerates more rapidly in the early years of NAFTA implementation, culminating in a 28,800 net job increase over the Baseline in 1995. By 2000, the employment is only 12,400 jobs greater than in the Baseline assumption.

The electrical machinery sector, which includes household appliances, radio, television, and communications equipment, and electronic components such as semiconductors, is another important employment-creating sector under either simulation of NAFTA. Greater job creation and economic growth in Mexico would promote higher income levels which would generate more demand for US imports, especially in the short run. Consistent with the experience of the nonelectrical machinery sector under both alternative scenarios, the electrical machinery sector experiences more rapid, immediate gains under the Nongradual case, which peak in 1995 at 18,000 additional jobs, while under the Gradual scenario, employment gains reach a maximum in 1996 at 28,600 extra positions. Over the life of the simulation period, the Gradual scenario returns an average annual employment gain of 15,000 additional jobs while the Nongradual case offers 12,500 new positions over the Baseline. As suggested above, a phased-in implementation of

NAFTA is expected to generate larger employment gains for the electrical machinery sector over the remainder of the decade than would an immediate conversion to free trade, despite the fact that employment gains in the Nongradual scenario would peak more rapidly.

The benefits of employment creation arising from NAFTA are not confined to the manufacturing industries; important job gains in the service industries are also expected under both simulation scenarios. The transportation, communications, and utilities sectors would all experience a boost from the increase in business to Mexico. These sectors would experience average increases of 14,200 per year in the Gradual scenario, and would add an average of 10,200 jobs per year in the Nongradual alternative.

Despite the impressive gains experienced in the above sample of US industries, DRI's simulations indicate that NAFTA will have a negative impact on certain manufacturing sectors under both implementation scenarios. The leather industry experiences the quickest decline in employment compared to the Baseline case of all the industrial sectors studied. While this sector's losses are not the absolute largest due to the already diminished size of the leather industry in the US industrial base, the speed with which the industry loses jobs under NAFTA represents an important policy challenge both for the industry and for federally-funded assistance programs. Under the Gradual scenario, employment levels fall below the Baseline as early as 1996, and the Nongradual simulation indicates average annual employment losses of 500 jobs beginning in 1994.

Other traditional, labor-intensive US sectors, such as textiles and apparel, are expected to deteriorate slowly as a result of lower Mexican labor costs in competing industries. The textile product sector, for example, creates an average 1,300 jobs per year in the Gradual scenario over the simulation period, but by 1999 employment declines 0.6% below the Baseline and falls 0.14% below in 2000. As expected, the Nongradual scenario results indicate a much smaller average annual employment gain of only 500 jobs, and employment levels begin to decline below the Baseline in 1998, a year earlier than in the first scenario. The pattern of employment gains and losses in the apparel industry mirrors that of the textile sector under both scenarios. Whereas employment gains average 880 jobs per year over the remainder of the decade under the Gradual simulation, becoming negative only in 1999 compared to the Baseline, employment gains under the Nongradual case average 330 per year and become negative in 1998.

Despite the existence of employment declines in the labor-intensive industries in a NAFTA environment, these sectors were expected to reduce their labor force even in a no-NAFTA setting. The advent of NAFTA may, in fact, lessen the severity of the industries' short-term declines because Mexican industries currently lack the capacity to increase production immediately. When trade barriers are dismantled under NAFTA, US producers should be able to respond more rapidly to Mexico's relatively untapped consumer market than their Mexican counterparts can in the US markets. In the long run, however, textile and apparel firms, as examples of a broader category of labor-intensive US industries, would become more severely threatened by Mexican low-

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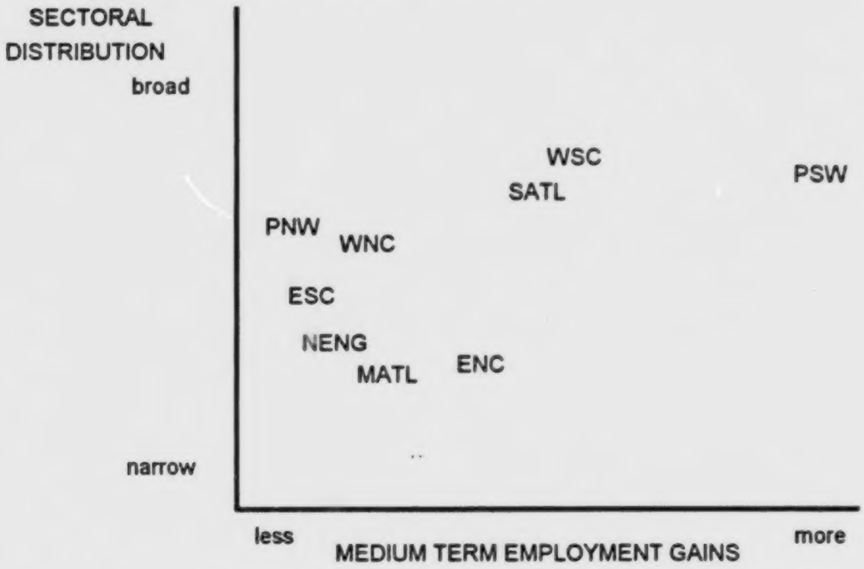
cost competition and may be forced to transfer their production facilities to more attractive locations.

Medium Term Employment Gains Under NAFTA



VII. The Effect of NAFTA on Regional Employment

Overview

The economic impact of NAFTA will differ across US geographical regions. States along the US-Mexican border that already have developed business relationships with Mexico, such as the West South Central and Pacific Southwest regions, would clearly have an advantage over other areas. Tables 49 thru 88 in the Statistical Appendix show the numerical detail of this analysis by regions.

The West South Central region, dominated by the Texas economy, would be the winner in both the Nongradual and Gradual scenarios. Currently, Mexico is Texas' largest export market with electronic components, electrical and computer machinery, transportation machinery, and chemicals accounting for most of the exports to Mexico. Moreover, trade liberalization would enhance even further the region's well-established trading relationship with Mexico.

The West South Central region's total nonfarm employment would experience an average annual increase of 42,000 new jobs between 1993 and 2000 in the Nongradual scenario and 50,000 additional jobs per year in the Gradual case, compared to the gains under the Baseline. This would account for an average 0.4% per year increase in the region's work force during the forecast period, the largest percentage difference among the nine regions. Moreover, it is the only region, other than the Pacific Southwest, that would consistently create more jobs in both of the alternative scenarios throughout the decade. The region's close proximity as well as its strong trading history with Mexico would give it the upper hand.

However, the West South Central region's explosive rate of employment growth would peak in 1996 and 1997 under the Nongradual and Gradual scenarios, respectively, before employment gains slow through the rest of the decade. This adjustment reflects a deceleration in the rate of growth in Mexican imports of US goods and services as Mexican domestic production better supports its own markets and as imports grow from other foreign countries such as Japan and the European Community.

The Pacific Southwest's proximity and current export activity with Mexico would create an average of 77,800 new jobs per year between 1993 and 2000 under the Gradual scenario which translates into a 0.4% annual increase of its total employment sector. Although the region's share of export activity with Mexico is smaller than that of the West South Central region, NAFTA should enhance several of the Pacific Southwest's important industries that already trade with Mexico, including its computer, nonelectrical and electrical machinery sectors. The region should also benefit from an increase in demand for US services in finance, software engineering, and other business services.

Those regions that have a higher than average concentration in labor-intensive manufacturing sectors or those that are less prone to export their goods to Mexico will have limited growth opportunities. In both alternative scenarios, the East South Central region will not fare as well as the other eight because of its large concentration in the apparel and textile industries, which will experience losses in the latter part of the decade, and because of its propensity to supply mostly domestic markets. In fact, between 1993 and 2000, this region would lose an average 1,700 jobs per year under the Nongradual case compared to the Baseline and only create 2,800 more jobs on an average annual basis in the Gradual scenario. Moreover, in the Nongradual scenario, the East South Central region would be the first among the nine to begin to lose jobs, which would occur as early as 1996.

Regional Impact

New England (CT, ME, MA, NH, RI, VT)

The overall impact of NAFTA on the New England economy should be relatively minimal. Those industries that may benefit more than others include telecommunications and capital goods manufacturers, such as computer, medical instrument, and environmental and pollution control equipment producers. Nevertheless, the region accounted for only 2% of total US exports to Mexico in 1990, thus suggesting NAFTA's limited impact on New England's exporting sectors. Moreover, because the region has already lost most of its low-wage manufacturing base, it should not be threatened by Mexican competition in the labor-intensive industries.

Gradual Case. Total non-agricultural employment in New England accelerates through 1996, reaching a peak of 18,000 additional jobs over the Baseline scenario in that year. For the remainder of the decade, employment growth decelerates but remains positive. In 2000, employment is almost 12,000 greater in the Gradual case than the Nongradual.

The nonelectrical and electrical machinery sectors would experience job gains of 1.0% and 0.8%, respectively, above the Baseline in 2000, both more than the national average. The region's presence in the high-tech and telecommunications industries would allow it to reap some additional benefit from NAFTA. However, the largest employment gains would still be in those industries that already have a closer relationship with Mexico.

With higher levels of employment in the Gradual case, New England's personal income would rise faster in the Gradual scenario than the Nongradual. In fact, this difference amounts to $900 (or 2.0 percentage points) in 2000. Nonetheless, the overall effect of a free trade agreement with Mexico on the New England economy remains marginal.

Nongradual Case. The immediate lifting of trade barriers with Mexico would have a limited impact on the New England region. Despite the sudden increase of 10,700 total nonfarm jobs in 1994 relative to the Baseline, the job losses at the end of the decade would offset the initial employment-producing effect . In 2000, moreover, the region would lose almost 12,000 jobs under the Nongradual alternative relative to the Baseline, which translates into 0.2% of the region's nonagricultural work force.

With a sudden free trade environment, New England's total manufacturing sector would create almost 8,000 more jobs, (0.7%) more than the Baseline in 1994. Nonelectrical and electrical machinery manufacturing employment would comprise most of the new jobs. In fact, nonelectrical and electrical machinery sectors in New England would increase their work force in 1994 by 1.5% and 1.3%, respectively, which is higher than the national average. Moreover, these two industries' employment growth is sustained throughout the decade under this scenario, reflecting the increase in Mexican demand for computing equipment and electronic components.

On the other hand, the region's leather employment would begin to fall below the

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Baseline level in 1994 and decline continually through the rest of the decade due to Mexico's competitive wage costs. The New England leather industry employed only 3,000 workers in 1990, however, therefore, the impact of NAFTA-induced changes on the leather industry should have a limited effect on the overall New England economy.

The increase in total manufacturing employment should have an important influence on the region's non-manufacturing sectors. For instance, the transportation and utilities sectors, which should experience the most noticeable employment gains among the non-manufacturing sectors because they directly support exporting industries, would obtain employment peaks in 1994 with 500 more jobs than the Baseline scenario. The employment gains would still be less than the national average, however, and employment in these sectors is expected to begin declining in 1998 when exports to Mexico are forecast to decelerate.

Middle Atlantic (NY, PA, NJ)

NAFTA would not have a significant impact on the Middle Atlantic states because the region does not export heavily to Mexico. Of the three states, New York had the largest share of US total exports to Mexico in 1990, with only 3%. In total, exports to Mexico accounted for only 4% of the region's total exports, and the principal exported goods were in the industrial machinery and equipment, electronic and other electric equipment, and chemicals and allied products industries. Most of the region's export activity is geared toward Canada, which liberalized trade with the United States in 1989.

In a free trade environment, the region's employment gains in the high-tech manufacturing sectors would be tempered by losses in the lower-wage industries like textile and apparel. The region's business and financial services industries would not experience significant employment changes as a result of NAFTA, and, since these service sectors account for an important segment of the Middle Atlantic economies, they would help to shield the region from undue employment losses.

Gradual Case. Although the Middle Atlantic's performance improves under the Gradual scenario, the effect would still be slight relative to the West South Central and the Pacific Southwest. Total employment growth in the Middle Atlantic region would peak in 1996 with 38,100 more jobs (0.2%) over the Baseline, but the Middle Atlantic would be one of five regions that loses jobs by 2000 under this scenario.

Total manufacturing growth in the Middle Atlantic region continues to grow through 2000, peaking in 1996 with over 24,000 more jobs, an increase of 1.0%, relative to the Baseline. Nevertheless, this increase still represents one of the smallest regional manufacturing employment gains.

Nongradual Case. Total employment in the Middle Atlantic region would gain 32,500 jobs (0.2%) above the Baseline in 1994 under the Nongradual scenario. However the rate of employment growth would gradually slow, and then begin to decline. By 2000, employment would fall 21,800 jobs below the Baseline, which translates into 0.1% loss of total employment.

Jobs in the region's primary metals, nonelectrical machinery, and transportation equipment manufacturing industries would experience the largest gains from a sudden liberalization of trade. However, the employment growth rate for each industry would peak in 1996, before slowing subsequently. The immediate opening of the North American markets would give a short-term boost to the region's level of employment, but the region would be worse off than the base case scenario in the long run. The increase in Mexican competition would deflate the region's employment growth in the latter part of the decade, particularly if Middle Atlantic companies transfer their productive facilities to Mexico to take advantage of attractive labor costs.

Despite declining employment, personal income would continue to grow faster than the Baseline through 2000, as a result of rising inflation and the region's employment gains in high-wage manufacturing sectors. Even so, the percentage differential in personal income between the Nongradual and the Baseline in the Middle Atlantic region is less than the national average.

Manufacturing jobs in the Middle Atlantic region account for a small share of the economy. Because NAFTA would have the greatest impact on the production side, this region's service-oriented industry mix would be affected in a limited way from a Mexico-US free trade agreement.

South Atlantic (DE, DC, FL, GA, MD, NC, SC, VA, WV)

The South Atlantic region incorporates nine states and accounts for the largest absolute number of nonfarm workers relative to the other regions. However, in terms of export activity to Mexico, the region lags behind; in 1990, the South Atlantic states produced 14% of total US exports and only 3% of it went to Mexico.

Like the other regions, chemicals, industrial machinery, and transportation equipment were the top three exports destined for Mexico. What differentiates the South Atlantic states from other regions, however, is their industrial concentration in three traditional, labor-intensive sectors: tobacco processing; fabric, yarn and thread mills; and miscellaneous textile goods. Although tobacco, textiles, and apparel comprise only 9% of US manufacturing jobs, in the South Atlantic they account for 25% of total manufacturing employment. The concentration of these three sectors in the South Atlantic's economy represents almost three times the national average. North Carolina, in particular, has been historically dependent on labor-intensive, traditional, nondurable manufacturing sectors like textiles and apparel.

Although efforts to diversify into high-tech industries exist, the region will continue to have a disproportionate share of low-wage, declining industries. This will leave the region vulnerable if a free trade agreement with Mexico is implemented.

Under NAFTA, losses in the textile and apparel industries would negate strong gains in high-tech durables such as machinery, instruments, fabricated metals, and transportation equipment.

Gradual Case. Allowing a transitional period to complete free trade implementation would delay losses in the nondurable manufacturing sector and elevate the region's high-tech employment industries throughout the decade. Moreover, as trade and investment shift between the United States and Mexico, the benefits would be larger if taken gradually.

Unlike the Nongradual scenario, the region's employment gains remain above the Baseline between 1993 and 2000. Furthermore, the unemployment rate continues to decline, and net migration out of the region is slightly less than in the Nongradual scenario. Total employment growth would peak in 1996 with 70,400 more jobs than the Baseline comparison (0.3%), which is higher than the gains registered under the Nongradual alternative.

Nongradual Case. Rapid liberalization of trade with Mexico would result in a peak gain of 53,900 jobs (0.25%) above the Baseline in 1995. By 2000, employment would fall by 10,700 jobs, or 0.04% below the Baseline, as the region's low-wage manufacturing sectors are hurt by low-cost Mexican labor.

Manufacturing is boosted in the short run as a result of increased demand for American products. Nonelectrical machinery would rise 1.4% above the Baseline by 1994, while electrical machinery, transportation equipment, and instruments industries achieve slightly smaller gains. However, these gains are offset by job losses in the apparel, textile, leather, and furniture industries throughout the latter part of the decade.

The region's export sector would benefit from the short-term increase in manufacturing wages and wholesale activity. Although retail trade may be hampered once Mexico is able to produce most its own goods, US wholesale traders would continue to supply the Mexican market. Nonetheless, gains in the South Atlantic region would average less than those at the national level.

East South Central (AL, KY, MS, TN)

NAFTA would have a negative impact on the East South Central region due to the area's lack of exporting activity with Mexico and its low-wage manufacturing base. The East South Central economy accounts for only 4% of total US exports and only 5% of the region's exports are sent to Mexico. Mexico's demand for electronic and other electrical equipment, primary metals, and industrial machinery comprise most of East South Central exports.

The region's industry mix tends primarily toward lower-wage industries like apparel and textiles. The region's concentration in the apparel industry is over three times the national average, and Mexico could compete directly in this sector with its low-cost labor advantage. The auto industry in the East South Central region, on the other hand, may move towards further integration of some of its production with the auto plants currently in place in Mexico, in order to take advantage of Mexico's lower labor costs.

If trade were liberalized, the region would have to compensate for the employment loss among its lower-skilled workers by excelling at higher-skilled jobs.

Gradual Case. The Gradual implementation of free trade with Mexico offers a better alternative for the East South Central region's economy because it would allow the East South Central region to improve its infrastructure and promote its comparative advantages, thereby creating an environment in which efficiency and competitiveness in the world markets could expand. Total nonfarm employment in the region would average 2,800 annual additional jobs between 1993 and 2000, compared with an average annual loss of 1,700 jobs over the same period under the Nongradual scenario. In the Gradual case, employment does not decline as rapidly in the lower-wage manufacturing sectors and the other higher-paying industries grow at a steady pace throughout the decade. Even the apparel industry would not begin to lose jobs until a year later than the Nongradual case.

The region's personal income, in turn, would grow faster in the Gradual scenario than the Nongradual case. In 2000, East South Central personal income would be $2,500 higher (0.6%) than the Baseline, while the Nongradual simulation offers slightly lower results.

Nongradual Case. The sudden removal of trade barriers with Mexico would cause the region's total nonagricultural employment to slip below the Baseline by the year 1997, in contrast with total US nonagricultural employment, which does not begin to decline in this simulation until 2000. The loss of jobs is not immediate because Mexico currently lacks the capacity to expand its production levels. The immediate implementation of NAFTA would have one of the largest regional negative impacts on the East South Central manufacturing sectors compared to the rest of the Nation. Under the Nongradual case, total manufacturing employment would be 2,300 jobs (0.2%) below the Baseline in 1999 and fall a further 3,700 jobs (0.3%) in 2000 alone. The principal industries affected by employment declines are leather, which would lose 2.8% of its work force relative to the Baseline in 2000, and textiles, which would begin experiencing employment declines in 1998 and lose up to 0.4% of its work force in 2000.

The drop in low-wage manufacturing jobs along with the rise in more capital-intensive jobs would force the region's average annual wage rate to increase. In fact, the region's annual manufacturing compensation rate is 0.8% higher than the Baseline in 2000. In effect, the region would have fewer jobs at higher pay.

West South Central (AR, LA, TX, OK)

With Texas alone accounting for 45% of total US exports to Mexico, the West South Central region would be the undisputed champion under NAFTA. The region's engineers, contractors, lawyers, business consultants, and other professionals will be in high demand once Mexican businesses begin to compete in the US market. Other industries such as trade, manufacturing, and construction will also benefit from a free trade agreement, as the region's proximity allows it to enhance its already well-established trading relationship with Mexico.

Mexico is currently the largest importer of Texan goods, with about 35% ($11.7 billion) of Texas' total exports going to Mexico. The *maquiladora* program is responsible for the large volume of electronic components, electrical and computer machinery, and transportation machinery that is currently being exported to Mexico. Non-*maquiladora* products, such as chemicals and petroleum-related goods, account for the remainder of Texan exports to Mexico.

The relaxation of trade barriers would promote further export activity and create jobs which are directly and indirectly connected to Mexican export trade. The region's transportation and distribution services, export/import companies, industrial suppliers, wholesale traders, petrochemical industry, business services, pharmaceutical companies, and telecommunications industries are some that would capitalize from NAFTA.

Certain West South Central industries, such as agriculture, apparel, textiles, and leather may lose labor-intensive manufacturing positions in light of Mexico's competitive labor base. However, the losses from these industries would not have a large impact on the overall economy.

Gradual Case. In the West South Central region, the Gradual implementation of NAFTA beginning in 1993 would have similar results as the Nongradual alternative. The principal exception is that under the Gradual scenario, there is no immediate gain in employment due to trade liberalization, rather employment growth is continual through the end of the decade.

Over the 1993-2000 period, the region would add an annual average of over 50,300 more jobs than the Baseline versus the 42,400 additional jobs per year in the Nongradual scenario. In terms of manufacturing employment, the region's electrical and nonelectrical machinery, fabricated metals, and chemicals industries would also create, on average, more jobs under the Gradual case than the Nongradual case. The region's income levels would also be higher under the Gradual scenario, which reflects the increase in demand for American imports, particularly manufactured goods. In summary, weaker low-wage manufacturing losses combined with stronger gains in the capital-intensive manufacturing sectors give the Gradual case the advantage.

Nongradual Case. The rush of West South Central exports to Mexico would create an additional 61,300 more jobs (0.5%) than in the Baseline in 1996. After that, export growth would slow, but still add another 32,400 jobs(0.3%) by 2000. The West South Central region, along with the Pacific Southwest, are the only two regions that would sustain employment levels above the Baseline in the Nongradual alternative. Although the Pacific Southwest would create the largest absolute number of jobs, the West South Central region would gain the largest percentage of new jobs relative to the Baseline.

A sudden free trade environment would promote the region's manufacturing sectors. Total manufacturing employment would create 17,800 more jobs in the Nongradual scenario than in the Baseline in 1995, which translates into a 1.1% increase in manufacturing employment. The losses in textile, lumber and wood products, paper products, leather products, and the stone, clay, and glass industries would be negated by the large gains in nonelectrical and electrical machinery, chemical products, furniture and fixtures, primary and fabricated metals, and transportation equipment. The increase in manufacturing employment would propel wage gains throughout the region.

Higher incomes would spark the region's non-manufacturing sectors like trade and services, which would also be boosted when demand for business and financial services also rises. The transportation, communications, and utilities industry would have 0.6% more employment in the Nongradual case relative to the Baseline in 1995, before settling to a 0.3% increase in 2000. The railways, ports, ships, airways, and trucking sectors that are tied to Mexican trade in the West South Central region would reap large benefits, along with the telecommunications industry and utility companies that provide energy to the region's manufacturing companies.

Employment growth in the West South Central region would contribute to wage and salary disbursement increases of almost 1.2% over the Baseline in 2000. Higher inflation is also a factor explaining the surge in wages and salary disbursements.

East North Central (IL, IN, OH, MI, WI)

Although the region accounts for 17% of the nation's total exports, the East North Central region's relationship with Mexico is weak. In 1990, the region exported only 5% of its total exports to Mexico. Transportation equipment represented the largest export sector to Mexico, with almost one third of total exports. Demand for East North Central capital goods would fuel regional growth if a free trade agreement with Mexico were implemented. Thanks to the expansion of trade which grew out of the free trade agreement with Canada, the East North Central region's total export activity is second only to the Pacific Southwest in terms of dollar value.

The transportation equipment industry, and in particular the automotive industry, would be fairly susceptible to the effects of a free trade agreement with Mexico. The United Auto Workers claim that the United States has already lost 75,000 jobs to Mexico; it believes that free trade and Mexico's labor cost advantage would further lure manufacturers and suppliers.

Although the wage differential between the United States and Mexico averaged $18 an hour for unionized automotive labor, this gap has shrunk and is expected to close even more as manufacturers compete for low cost labor. Labor costs, which typically represent only 20% of a manufacturer's total production costs, could soon be offset by escalating transportation expenses.

Gradual Case. Consistent with the performance of most other regions, the East North Central economy benefits proportionately more in the longer-term under a Gradual implementation of NAFTA. Total civilian employment gains peak at 65,000 (0.3%) above the Baseline in 1996. By 2000, however, there is practically no net effect on employment levels.

The principal factor which explains the employment gains in the Gradual scenario over the study's time period is that the region's important machinery and auto industries are protected from strong import competition over a longer time horizon, which helps maintain employment levels.

Under the Gradual case, the region's total manufacturing employment is 16,000 higher than the Nongradual case at the end of the decade.

Since wage and salary disbursements are partially shielded from erosion due to the presence of more high-wage manufacturing jobs in the local economy, the region's total personal income rises 0.8% above the Baseline in 2000. Relative to the Nation, however, this impact is similar to that under the Gradual case.

Nongradual Case. Under the Nongradual case, the East North Central percentage gains in civilian employment initially match the national percentage increases in employment. However, as the region's machinery and equipment sectors begin to face import competition from Mexico, gains diminish at a faster than average rate. By 2000, the region's civilian employment falls 18,000 below the Baseline; on a percentage basis, the negative impact is almost 2.5 times greater than the national profile.

Over the short term, many of the region's basic manufacturing industries (including paper, apparel, and metals) share in the gains of the more prominent machinery and transportation equipment sectors. Over the longer term, import competition first weakens nondurable manufacturing sectors, and then the machinery and equipment sectors. Mexico's evolving industrial capacity allows its exports to become more competitive in the US market.

The region's income growth reflects gains in underlying employment. By 1995, the East North Central personal income rises 0.3% above the Baseline, in line with national gains. By 2000, income stands at 0.6% above the Baseline, lower than the national 0.7% gain. This income effect ranks fifth among the gains registered in the other regions.

The maximum 0.2 percentage point dip in the East North Central unemployment rate occurs in 1995. Thereafter, weaker employment growth in both manufacturing and non-manufacturing sectors causes the rate to rise slightly above the Baseline by 2000. In turn, diminished labor market prospects result in migration to more prosperous regions in the Southwest. By 2000, the region's population falls by 18,000 below the Baseline.

West North Central (IA, KS, MO, MN, NE, ND, SD)

The West North Central trade ties with Mexico are proportionately small. Exports to Mexico comprise 5.5% of regional export activity and only 3% of total US exports to Mexico, which is smaller than its contribution to the nation's personal income or total industrial output. However, the West North Central grain and food industries serve as important inputs to the Mexican agricultural sector. Reflecting this integration, the region accounts for roughly 15% of the nation's agricultural and 12% of food product exports to Mexico.

The West North Central region stands to benefit most from increased exports of products from two of its most important sectors: specialized industry machinery and certain agricultural products. On the other hand, the region's highly concentrated leather and household appliance production will face more competition.

Gradual Case. Under a phased-in implementation of NAFTA, the region experiences longer-term employment gains, a lower unemployment rate, and slightly less net migration to other US regions than it would under the Nongradual scenario. Short-term employment gains in 1994 (6,600) are substantially lower than in the Nongradual scenario, but employment peaks at a higher level (22,000, or 0.3%) in 1996.

In general, the slow removal of trade barriers delays losses in nondurable manufacturing sectors and enhances the region's food processing employment base. At the same time, the region benefits from machinery and capital goods exports, which further boost trade and transportation sectors.

The West North Central farm sector receives the greatest benefit from free trade with Mexico compared with other farming sectors across the United States. Farm proprietors' income increases 0.4% above the Baseline by 2000. The region's personal income improvement ranks third in the nation, reflecting the gains in agricultural income as well as the effect of a stronger manufacturing sector on wage and salary gains. By the end of the decade, personal income rises more than 0.8% above the Baseline.

Nongradual Case. Rapid removal of trade barriers results in a peak gain of 16,000 jobs (0.2%) above the Baseline in 1994. By 2000, employment dips by 12,000 jobs (0.1%) below the Baseline, as many of the region's low-tech industries are hurt by cheaper Mexican imports. On a percentage basis, this decline from the Baseline is more than three times greater than the national decline.

The increase in Mexican capital goods imports has a stimulating effect on the region's manufacturing sector in the short run. Nonelectrical machinery employment rises 1.4% above the Baseline by 1994, while transportation equipment, instruments, and metals manufacturing achieve slightly smaller gains. Although gains in these industries slowly fade, by 2000 they maintain higher employment levels than in the Baseline. Also, the West North Central food processing industry performs slightly better than the national industry, reflecting the sector's relatively higher export propensity. On the other hand, these gains are offset by the apparel, textile, paper, chemical, and leather industries' weaker performance in both the short and long term. In particular, leather products face immediate import competition; employment falls 2.7% below the Baseline by 2000.

The region's services sector, especially trade, is boosted favorably by the short-term rise in manufacturing wages and wholesale activity. Nonetheless, the region lacks the business infrastructure and proximity to Mexico to sustain strong gains in business, finance, or transportation services. Thus, non-manufacturing categories add little dimension to initially favorable NAFTA impacts.

The dismantling of trade barriers, which gives rise to income improvements in Mexico, enhances the region's farm sector, creating new opportunities in agricultural services. By 2000, farm proprietors' income rises 0.4% above the Baseline, the strongest impact within the nine regions.

Despite the favorable impact on farm income, proportionately weaker gains cause total personal income to rise only 0.7% above the Baseline in 2000, which drops the West North Central region to fourth place in the national ranking. The unemployment rate falls 0.1 percentage point below the Baseline in 1994, but gradually rises above the Baseline by 2000. Net migration causes the region's population to fall by 13,000 residents below the Baseline in the same year.

Pacific Northwest (AK, ID, MT, OR, WA, WY)

Due to a combination of factors, the Pacific Northwest economy is marginally weakened in the long term by the implementation of NAFTA. The region's manufacturing and industrial base is highly concentrated in resource-dependent industries that are unlikely to see large gains in export activity. The region has above-average concentrations in chemical, metals, coal, and oil extractive industries. In addition, the concentration of wood and lumber products is almost 4.5 times greater in the Pacific Northwest than in the rest of the United States, and the concentration of food processing, paper, and agricultural products is at least 1.3 times greater. Many of these industries' products, especially mining, and wood and lumber products, already trade freely and are unlikely to see large gains in exports under NAFTA. Furthermore, certain segments of the region's agricultural and food processing sectors will face Mexican import competition.

Still, certain sectors should experience employment improvements under NAFTA. The region's small capital goods sector will gain from the opening of Mexico's electronics markets, and growth in the region's important aircraft and parts sector is also enhanced from growing subcontract markets in Mexico as well as increased transportation demand.

The Pacific Northwest's current trade links with Mexico are not very extensive. In 1990, the region accounted for only 1% of total US exports to Mexico, while accounting for more than 4% of total personal income. Nonelectrical machinery, paper, and agricultural products were the region's most important export categories.

Gradual Case. Gradual implementation of NAFTA limits the region's short-term gains compared with the Nongradual scenario, but conversely limits the longer-term employment losses. Civilian employment falls by 6,200 jobs below the Baseline only in the year 2000, compared with a 9,000 job loss in the Nongradual alternative.

The Gradual implementation also helps stem the erosion of the region's nondurable job base, thereby supporting growth in the non-manufacturing sectors. Farm income and wages present a similar profile as under the Nongradual case. In net terms, personal income is 0.7% higher than the Baseline by 2000, compared with a 0.9% national gain.

Changes in labor market conditions are also mitigated under this scenario. Due to relatively stronger employment growth after 1996 in the Gradual scenario, the Pacific Southwest's unemployment rate remains below the Baseline through 2000. After rising through the middle of the decade, the region's labor force declines by only 5,000 by 2000.

Nongradual Case. The Pacific Northwest's employment performance under the Nongradual simulation is more cyclical than that of the nation as a whole. Civilian employment gains peak at 0.2% above the Baseline in 1994, a figure which is similar to the national results. By 1998, however, employment falls below the Baseline, leading to a 0.2% loss by 2000. At the national level, negligible losses are recorded in the year 2000, the only year employment falls below the Baseline. Compared with other regions, the Pacific Northwest ranks immediately above the East South Central in terms of NAFTA's employment impact by the end of the simulation interval.

Machinery and transportation equipment are the only sectors that gain any substantial employment in the year 2000, while paper and metals help boost the manufacturing sector over the first two years of NAFTA's implementation. Import competition weakens the region's nondurable manufacturing sectors, including food, textiles and apparel. By 1998, total manufacturing employment falls below the Baseline, limiting wage and income growth.

The Pacific Northwest's total personal income rises only 0.5% above the Baseline by 2000, below the 0.7% national gains. Modest income gains accrue to farm proprietors, due to increased import competition with Mexico, which offsets slightly stronger growth in wages and salaries.

After an initial 0.2 percentage point drop in the unemployment rate in 1994, the combination of more job-seekers and weaker job growth causes the unemployment rate to rise slightly above the Baseline by 2000. Due to stronger job prospects in the Southwest, the region's population falls by 11,000 as the end of the decade approaches. The overall short-term gains and longer-term losses are modest.

Pacific Southwest (AZ, CA, CO, HI, NM, NV, UT)

Like the West South Central region, the Pacific Southwest has long-established commercial and cultural links with Mexico that will be further enriched as trade is liberalized. Since the 1960s, the region's border has been an important site for the rapid expansion of the *maquiladora* program. In 1990, the Mexican industrial centers that border California (including Tijuana, Ensenada, and Mexicali) and Arizona (Agua Prieta and Nogales) accounted for nearly one-third of the $13.7 billion *maquiladora* trade. Between 1986 and 1990, *maquiladora* trade in this region more than doubled.

In 1990, the Pacific Southwest accounted for over 20% of total US exports of commodities and manufactured goods to Mexico, lagging behind the West South Central 48% share. Electrical and nonelectrical machinery ranked as the region's largest export categories. Between 1987 and 1990, the region's total exports to Mexico grew at an impressive 25% annual rate.

The Pacific Southwest's transportation, wholesale trade, and distribution networks stand to gain from increased trade. In 1990, customs districts within the region, including Nogales, San Diego, Los Angeles and San Francisco, accounted for slightly less than one-quarter of total commodity trade between the United States and Mexico.

Apart from the region's established ties to Mexico and its advantageous geographical location, the Pacific Southwest's industry mix will also allow it to benefit from the growth opportunities which should emerge under NAFTA. The region's industrial base is concentrated in machinery, high-technology and electronics, and specialized business services. The region is more than twice as concentrated as the national average in office equipment, computing machinery, and electronic components; 1.75 times more concentrated in communications equipment; and almost 1.5 times more concentrated in instruments and supplies. These industries are well-suited to take advantage of the technological and capital investments Mexico will need in order to modernize its industries.

Gradual Case. The longer time horizon for the removal of tariff and non-tariff trade barriers under the Gradual scenario yields higher short- and long-term gains for the Pacific Southwest's population, income, and employment. The region's trade, transportation-, and communications industries gain in a fashion similar to the Nongradual case, with the added benefit of stronger employment growth in manufacturing. Mexico's higher income levels under the Gradual scenario boost demand in the Southwest's machinery and high-tech equipment sectors, while the slow removal of barriers prevents a sharp erosion of employment gains in certain nondurable manufacturing sectors, such as textiles and apparel.

By 1996, the Pacific Southwest's nonfarm employment stands 118,000 (0.6%) higher than the Baseline. As Mexican import competition gradually increases, employment gains diminish to 74,000 by 2000, or 0.35% above the Baseline. Of the nine regions, the Pacific Southwest achieves the largest absolute gain in employment, although on a percentage basis, the region is second to the West South Central.

Personal income gains are more substantial under the Gradual case, rising 0.7% above the Baseline by 1996, and 1.2% by 2000. Farm incomes deteriorate in the early years of the forecast but resume a consistently positive trend by the end of the decade.

Since employment gains are higher and do not diminish as rapidly as under the Nongradual case, the region's unemployment rate falls below the Baseline case halfway through the simulation period. By 1996 unemployment is 0.2 percentage points below the Baseline and it continues to fall through 2000. Consequently, its population is 8,000 higher than in the Nongradual case, or 0.13% above the Baseline

Nongradual Case. Under the Nongradual alternative, the Pacific Southwest's percentage gains in income and employment gains rank only behind those of the West South Central region. Despite the fact that the region's total nonfarm employment impact is nearly double the national impact, the overall gain in jobs is relatively small. By 1996, employment is 84,000 jobs (0.4%) higher than the Baseline. By 2000, these gains diminish to slightly more than 45,000 jobs (0.2%). Nonetheless, the Pacific Southwest ranks with the West South Central as the two regions in the country that have the highest overall employment levels in the Nongradual scenario.

The Pacific Southwest's manufacturing sector creates 25,000 jobs in 1996, ranking on a percentage basis only slightly behind the West South Central. Two of the region's most important manufacturing sectors, electrical and nonelectrical machinery, record nation-leading percentage gains under the scenario. This reflects the sectors' propensity to export to Mexico, as well as increased demand for computing equipment and electronic components. Nondurable manufacturing sectors, such as apparel and textiles, which enjoy short-lived gains after liberalization, eventually face stronger import competition. By 2000, the region loses an additional 0.5% of its employment in textiles and 0.2% of its employment in apparel. In general, these losses are consistent with the magnitude of the national profile.

The outlook for the region's non-manufacturing sector is improved in two ways. First, increased trade and demand for business services, finance, and transportation support non-manufacturing employment growth directly. Second, employment benefits from wage gains accrued through higher exports and manufacturing activity indirectly support the retail trade and services sectors.

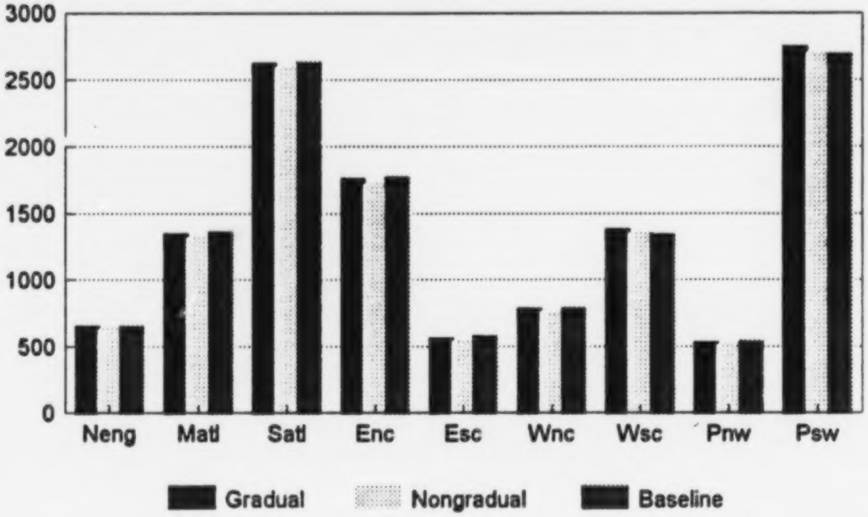
Increased consumer spending and distribution activity allow the trade sector to gain 24,000 (0.5%) additional jobs by 1995. Over ensuing years, trade employment gains over the Baseline will diminish, but at slower than national rates, which is due to the proportionately larger impact which NAFTA would have on wholesale trade activity. As infrastructure develops to support increased wholesale trade and imports from Mexico, the trade sector will be insulated from the effect of diminished gains in consumer spending and retail trade. Employment gains in transportation and communications will reveal a similar pattern, reflecting more trucking, port, and telecommunications facilities for economic integration.

By 1996, wages and salaries rise by $5.7 billion(0.8%) above the Baseline scenario. This is higher than the underlying impact on employment would suggest, and stems from the combination of higher inflation and the Pacific Southwest's proportionately larger employment gains in the high-wage machinery manufacturing sectors. Farm proprietors' income is essentially unchanged from the Baseline in 1996, which is similar to the national profile. While parts of the region gain from increased grain exports, others, especially California, suffer from increased Mexican import competition in fruits and vegetables. Personal income rises $7.7 billion (0.7%) above the Baseline by 1996. By 2000, personal income increases $15.2 billion (1.0%) over the Baseline.

An improved labor market situation will induce an additional 25,000 persons to enter the labor force by 1996. Employment gains will be sufficient to offset the corresponding rise in the labor force, which will allow the unemployment rate to fall by 0.1 percentage points. As employment gains diminish over the following four years, the region's unemployment rate will be essentially unchanged from the Baseline in 2000. Nonetheless, the region's stronger labor market in the middle of the decade attracts workers from other regions, causing the population to grow by 52,000 (0.1%) over the Baseline at the end of the decade.

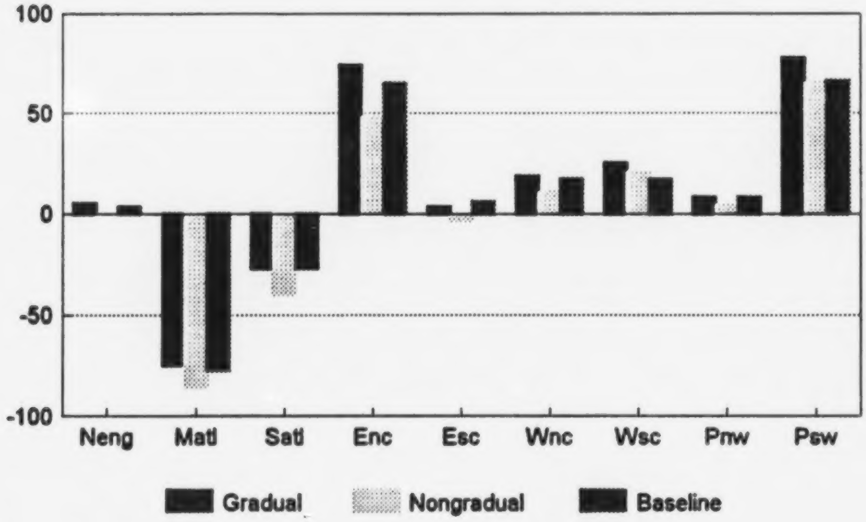
Change in Nonfarm Employment

(1993-2000, Thousands of persons)



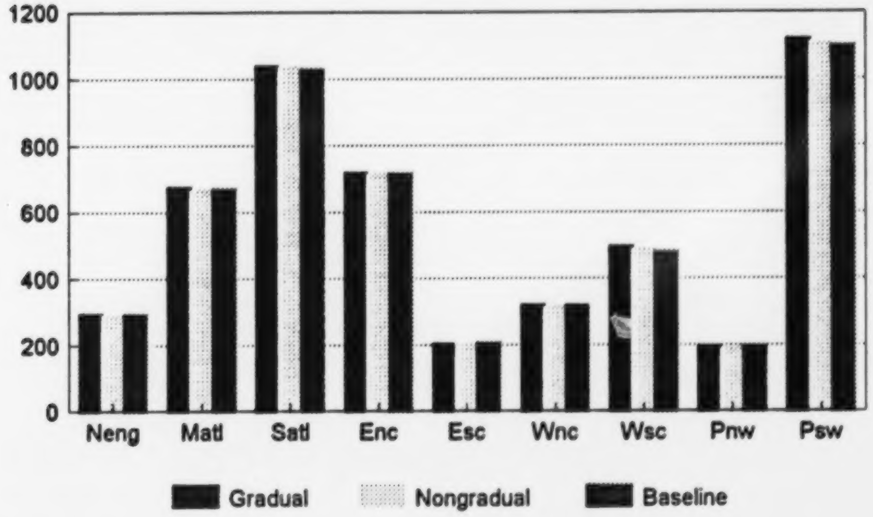
Change in Manufacturing Employment

(1993-2000, Thousands of persons)



Change in Services Employment

(1993-2000, Thousands of persons)



VIII. NAFTA Implications for Worker Training Programs

DRI/McGraw-Hill's analysis of the macroeconomic effects of a free trade agreement with Mexico finds that the overall level of US. exports and US. imports will increase. The US. economy as a whole will benefit, particularly in the gradual scenario where Total Non-Agricultural Employment will increase every year between 1993 and 2000. As shown in the Tables following the Executive Summary, over 195,000 jobs will be added between 1993 and 1996 and all geographical regions will gain in total employment. Even though, on balance, there will be more jobs under this scenario, many currently existing jobs will disappear, with some industries and regions hit harder than others. Consequently, policies to retrain workers dislocated by NAFTA may be needed.

Many politicians and business people are concerned that the economic changes due to NAFTA will have a "zero-sum" effect on the combined North American economies of the United States and Mexico (and/or Canada); that is, jobs that are gained in one country will be lost permanently in the other, so that the total number of jobs in both countries will remain the same. Since Mexico is a much lower wage country, under this thinking American jobs, particularly high wage manufacturing jobs, will move to Mexico permanently. Such jobs will then not be replaced, either in the same industry and/or location or elsewhere in the US. economy. Under a "zero-sum" outlook, American workers are in the undesirable position of looking for work in an economy that has fewer total jobs in the long-run.

The "zero-sum" outlook is counter-balanced by the "win-win" scenario. Supporters of NAFTA see both the US. and Mexican economies benefiting from free trade: while some American jobs will migrate south of the border where wages are substantially lower, this will increase the growth rate of the Mexican economy, the United State's third largest trading partner, who will then be able to import more US. goods. DRI/McGraw-Hill's analysis shows that both the Mexican and US. economies will gain jobs overall, particularly if NAFTA is implemented gradually. However, even under macro-economic conditions in which overall employment is increasing, individual workers will be displaced and might require worker retraining programs.

Background on Worker Training Programs

Training, particularly worker re-training, fulfills a role in a nationwide economy which is losing jobs in some sectors while gaining in others. While the US. economy will gain jobs on net due to NAFTA, there will be permanent job losses in labor-intensive industries, such as textiles and apparel. Correspondingly, there will be significant increases in employment in such high-tech industries as computers and semi-conductors. These permanent shifts point to the need for worker retraining, and not just income maintenance.

Government programs for assisting workers who have lost their jobs due to changes in the world economy and international trade date back to the Great Depression. The precursor of modern programs to assist workers dislocated by foreign imports is the Trade Adjustment Assistance (TAA), which was created in the Trade Expansion Act of 1962. Due to strict eligibility requirements, few dislocated workers used the program in the early years until the Trade Act of 1974, which removed the requirement that workers prove that trade concessions had caused injury to the worker or firm, but only that imports "contributed substantially" to the injury.

TAA's primary form of aid is income support called Trade Readjustment Allowances (TRAs). TRAs are cash payments which can be combined with Unemployment Insurance to extend coverage for workers to 52 or possibly 78 weeks. TRAs accounted for 98 percent of all expenditures between 1975 and 1980 and 94% of all expenditures from 1980 to 1989. During the second half of the 1970s a total of 1.2 million workers were certified as eligible for TAA benefits, however, during the decade of the 1980s only slightly over one half million workers were certified to receive such benefits.

Even with recent increases in training, TAA is still most often used for income support. By statute, TAA is available only to workers who have been laid off, or are threatened with being laid off due to import competition, since TAA was targeted with providing assistance to workers who bore the job loss necessary for the American economy as a whole to benefit from increased foreign trade. Individual workers can be certified as eligible, as can firms, and more recently entire industries which can document job loss due to imports.

The Economic Dislocation and Worker Assistance Act (EDWAA) was enacted in 1988, as an amendment to Title III of the Job Training Partnership Act (JTPA). EDWAA is available to all workers who have been laid off or terminated in connection with a plant closing and have limited opportunities to find employment in the same or a closely related industry, regardless of whether the "injury" was due to foreign imports. EDWAA was designed to provide plant closing counseling, worker retraining and long term placement. While by statute, up to 25% of all funding can be used for income maintenance to workers who have exhausted all their unemployment benefits, in practice little funding is used for income maintenance. State governments administer EDWAA, primarily through selecting needy areas of the state termed Service Delivery Areas (SDAs). A consortia of SDAs form a sub-state area and funding levels are set through formula that takes into account the local unemployment rate and plant closings.

Policy Concerns for TAA and EDWAA

TAA remains the more expensive of the two programs, with costs per worker more than four times the cost of EDWAA, primarily due to income maintenance payments. While income maintenance programs are costly, they provide support for a worker (and family) at what is often a crucial and difficult time, and can prevent a temporary setback from becoming a permanent problem by allowing the family to preserve its lifestyle (and stay off welfare, etc.) while the dislocated worker finds another job.

On the other hand, there is much evidence that income maintenance payments in general, and TRA specifically, substantially increase the time it takes for workers to find another job. A longer job search may well result in a better, higher-paying job and be a more permanent solution for a dislocated worker than the first job that comes along. However, workers eligible for TRAs for a full year or year and a half are much more likely to job hunt with less urgency.

The combination of worker retraining and income maintenance is philosophically appealing as it provides for the immediate needs of dislocated workers while working on a long term solution. There is thus a strong argument for linking income maintenance payments to willingness to participate in training programs. In practice, however, the combination may not be ideal. Dislocated workers may enroll in training programs in which they have little or no interest, simply to receive income payments. Training programs will then be not only overused but inefficiently used.

Both TAA and EDWAA have historically been underutilized. Difficulties in establishing eligibility for TAA benefits have kept annual TAA recipients to only 20,000 to 40,000 nationwide. EDWAA, with its far more liberal eligibility requirements, has averaged slightly over a quarter million recipients annually over the past two years, a very small percentage of eligible workers nationwide.

Options for Worker Adjustment Assistance Programs

In evaluating the effect of NAFTA on worker retraining programs, assumptions needed to be made both about political factors affecting the future of the programs and the utilization of the programs. Currently, the Bush administration is seeking to eliminate TAA altogether and fold benefits in under EDWAA. At the same time, some Congressional leaders are pushing to have TAA (and EDWAA) continue in their present forms. Thus, when evaluating the future of such programs, two scenarios have been considered. The first is the continuance of both programs, with their current eligibility and services. The second is complete termination of TAA, with EDWAA continuing in its present form and picking up workers who would have been served by TAA.

Both TAA and EDWAA were assumed to maintain their FY-91 costs per workers of $7160 and $1460, respectively, in real dollars, throughout all calculations. The baseline scenario (without NAFTA) assumes that each program serves the percentage of unemployed workers that it has historically. However, changes due to NAFTA were assumed to increase demand for the programs due to the "shock" often associated with plant closing and better publicity about program benefits. For the gradual and non-gradual NAFTA scenarios, participation rates were calculated by region. Areas that gained employment and had fewer unemployed workers continued to serve their historical percentage of unemployed workers and therefore saw a decrease in participation due to the smaller number of unemployed workers. However, in regions with more unemployed workers, the additional workers dislocated by NAFTA were assumed to participate at a rate **double** the historical percentage while other unemployed workers were assumed to continue at the historical rate.

Tables 89 to 104 in the Statistical Appendix on **NAFTA Impacts on Worker Assistance**

Programs present the number of participants and program costs in real dollars under the gradual and non-gradual NAFTA scenarios, with absolute and percentage differences from the baseline scenario for nine regions and the US. as a whole. These are presented for each program separately and then for TAA and EDWAA combined, assuming that both programs continue in their present form.

Given the possibility that TAA will be terminated, it was necessary to construct a second scenario under which EDWAA continues but TAA does not. Since EDWAA has much more lenient eligibility standards than TAA, all participants in TAA would be eligible for EDWAA. The US Department of Labor believes that there currently exists an overlap in workers served by the two programs with about 25% of TAA participants also receiving benefits under EDWAA. Since the goals of EDWAA would appear to meet the needs of some workers displaced due to changes from NAFTA, those previously eligible for TAA would still benefit from EDWAA. Although EDWAA benefits are less generous, it is assumed that the 75% of TAA participants who are not currently enrolled in EDWAA would accept EDWAA if no better program was available. For the TAA Merged Into EDWAA scenario, EDWAA was assumed to carry both its participants as well as the additional TAA workers at the $1460 EDWAA cost per worker (in real dollars). Regional changes in unemployment levels were assumed to have the same asymmetric effect on demand as in the EDWAA and TAA scenario.

Total expenditures within each program options are similar under the gradual and nongradual scenario. For TAA and EDWAA maintained as separate programs, total expenditures under the gradual scenario for all workers (whether or not dislocated due to NAFTA) from 1993 to 2000 are $6,667 million for an annual average of $833.8 million, while corresponding figures are $6,716 and $839.5 for the nongradual scenario. If TAA is merged into EDWAA, total expenditures under the gradual scenario are $4,666 million for an annual average of $583.3; under the nongradual scenario, costs are very similar at $4,698 and $587.2.

When TAA and EDWAA are maintained as separate programs, costs under the gradual scenario increase from $759.9 million in 1993 to $981.2 million in 2000. Total expenditures for all cases are shown in the table at end of this chapter. The corresponding number of participants for both programs increases modestly from 343,000 to 356,000 during the same period (see Table 98 of the Statistical Appendix). Under the nongradual scenario, total expenditures start out lower at $754.5 million in 1993 but end up higher at $996.7 million in 2000, with the number of participants increasing from 341,000 to 362,000 (Table 102). When TAA is Merged Into EDWAA, costs are lower under either scenario, with expenditures under the gradual scenario only $531.5 million in 1993 and increasing to $686.4 million in 2000, the level of participants goes from 335,000 to 347,000 (see Table 97). Corresponding levels under the nongradual scenario are $527.8 million and $697.2 million with participants increasing from 332,000 to 353,000 (see Table 101).

Under any scenario, TAA Merged Into EDWAA costs are lower than EDWAA and

TAA maintained as separate programs, due to lower per worker costs, with a differential of about 30%. Despite the relatively few number of workers, the differences in needed funding levels can be substantial. TAA Merged Into EDWAA costs were almost $300 million less than EDWAA and TAA maintained as separate programs under the gradual scenario in the year 2000 ($686 million vs. $981 million).

EDWAA and TAA will certainly be affected by NAFTA, but changes due to NAFTA remain only one factor affecting the programs. Program costs under both scenarios decline overall under the gradual scenarios, and generally decrease until 1998 and then increase in the non-gradual scenario. This is due to the increase in US employment until 1998 followed by a decrease in 1999 and 2000 under the nongradual scenario. However, the magnitude of the changes in program costs due to NAFTA is rarely over 4%, which underscores the importance of broad policy concerns rather than focusing solely on the impact of NAFTA.

The West South Central (WSC), with strong previous ties to US.-Mexico trade, benefits under both the gradual and non-gradual scenarios and thus experiences a significant drop in the need for worker retraining programs. In 1996 alone, as shown in Table 90 of the Statistical Appendix, **NAFTA Impacts on Worker Assistance Programs, Expenditures on TAA and EDWAA (Gradual Case vs. Base Case),** the WSC will experience a full 3.5% decrease in expenditures under the gradual scenario, following a 2.5% decrease in 1995 and preceding a 2.8% decrease in 1997. However, the East North Central will fare even better, with decreases of 2.7%, 4.5% and 3.4% in 1995, 1996 and 1997 respectively. On the other hand, the West North Central will experience the smallest decreases (1.9%,2.9% and 2.1%) in the use of such programs during those "boom" years. Similar results are found for Expenditures on TAA Merged Into EDWAA and for the number of participants under either program implementation.

While EDWAA and TAA have an effect on the incomes and job placement prospects of individual workers, the programs are so small relative to total governmental spending and the size of the US economy, that their implementation does not change overall or regional unemployment rates or income. Not surprisingly, the effect of NAFTA on the utilization and needed funding levels mirrors NAFTA's effects on the US. economy and unemployment levels. DRI/McGraw-Hill's gradual scenario shows the US. economy gaining jobs and with fewer unemployed workers. Thus utilization of either program falls overall. In the non-gradual case, enrollment in worker training programs is lower from 1993 to 1998 as the US. economy increases exports to Mexico, but increases in 1999 and 2000 as more American workers are displaced due to Mexico's lessened capacity to import American goods.

All regions of the US. will experience a decrease in unemployment under the gradual scenario, and until 1998 under the non-gradual scenario. While some regions will fare better than others, NAFTA effect on regional differences of worker assistance programs are overshadowed by NAFTA macro factors effecting the US. economy in a given year.

NAFTA SUMMARY IMPACTS
ON WORKER ASSISTANCE PROGRAM EXPENDITURES
GRADUAL AND NONGRADUAL SCENARIOS
(IN $MILLIONS)

TAA MERGED INTO EDWAA

	1993	1994	1995	1996	1997	1998	1999	2000
Baseline	534.8	525.2	537.5	577.0	602.0	625.1	654.4	690.3
Gradual	531.5	519.8	524.3	555.5	584.8	615.0	648.9	686.4
$Difference	-3.3	-5.4	-13.3	-21.6	-17.2	-10.1	-5.5	-4.0
%Difference	-0.61	-1.04	-2.47	-3.74	-2.86	-1.62	-0.85	-0.58
Nongradual	527.8	510.3	523.2	566.7	595.0	621.6	655.9	697.2
$Difference	-7.0	-14.9	-14.4	-10.4	-7.0	-3.5	1.6	6.8
%Difference	-1.31	-2.84	-2.68	-1.80	-1.16	-0.56	0.24	0.99

TAA AND EDWAA MAINTAINED AS SEPARATE PROGRAMS

	1993	1994	1995	1996	1997	1998	1999	2000
Baseline	764.5	750.9	768.5	824.9	860.7	893.6	935.5	986.9
Gradual	759.9	743.1	749.5	794.1	836.0	879.1	927.6	981.2
$Difference	-4.7	-7.8	-19.0	-30.8	-24.6	-14.5	-7.9	-5.7
%Difference	-0.61	-1.04	-2.47	-3.74	-2.86	-1.62	-0.85	-0.58
Nongradual	754.5	729.5	747.9	810.1	850.6	888.6	937.7	996.7
$Difference	-10.0	-21.4	-20.6	-14.8	-10.0	-5.0	2.2	9.7
%Difference	-1.31	-2.84	-2.68	-1.80	-1.16	-0.56	0.24	0.99

IX. Policy Options

NAFTA will have different dynamic effects on the US economy, labor, and employment both before and during the period of implementation as US firms prepare to take advantage of NAFTA's potential benefits or begin to plan for its coming challenges. The impact of this Agreement will vary over time, based on a combination of the three following factors:

- Short- versus long- term effects. The immediate impact of NAFTA, even before its implementation or approval, will depend on a time dimension that includes both the introduction of the free trade policies as well as the duration of the implementation period toward full trade liberalization.

- Regional effects. The overall impact of NAFTA on the US economy will not be homogeneous. There will be a geographical differentiation of benefits and losses that will depend on the industry mix in the specific regions, the proximity to Mexico (or Canada, as may be the case), and the export/import orientation of the region.

- Industrial effects. Industry-specific effects will highlight issues of international competitiveness in the US economy. The relative importance of international trade, as well as technological advantage and current market share, will be relevant to qualify the impact of NAFTA as American industries.

Employment and labor levels will be affected differently over time, depending on the possible combination of these factors. For instance, industries that are currently competitive and maintain a relatively large share of US exports into the Mexican markets, may be able to weather the impact of imported low-cost products from Mexico in the short term. However, as Mexican manufacturing achieves a larger scale and improves its technological sophistication, it could represent a growing challenge to US producers. If these producers have been based in regions in the United States where local tax and labor regulations infringe on competitiveness, it could be expected that the threat of free trade will grow over time and may eventually point to a major US industrial restructuring.

The following policy options try to address possible ways to prevent or correct these potential disruptions to US industry and employment. These options should be regarded, as a list of possible elements for an overall solution that would require governmental as well as private action. None can be considered as a single solution to these potential issues, as they are only factors that influence investment decisions or affect competitiveness and productivity. They all share some common intentions, however, including the need to publicly re-examine the role of federal and state policies in stimulating capital formation, and the effect of these policies on labor performance and job formation in the United States.

These policy options can be divided into three groups:

- Economic policy,
- Job retraining and worker assistance programs, and,
- Areas in need of further consideration regarding public policy.

Economic Policy

- DRI's macro and regional economic impact analysis indicates that a gradual implementation of NAFTA is preferable to a rapid elimination of trade barriers.
- Gradual implementation would minimize worker dislocation and enhance long-term growth in employment and income because of the time for adjustment it provides and the better long-term prospects for trade with Mexico.
- The United States would benefit most by successfully matching its capital goods and technology-based industries with Mexico's emerging industrial base which requires modernization.
- Trade liberalization with a low-cost competitor suggests that employment and industrial restructuring in the United States will necessitate careful monitoring of changing conditions. Adapting adequate statistical information about these issues should facilitate detailed studies of these restructuring.
- Free trade with Mexico will increase wage differentials between US regions. While certain regions will become more competitive, others will face a greater challenge in coping with NAFTA's impact. Federal programs that work with state governments to redirect investment flows across regions to take advantage of those differentials could enhance competitiveness nationwide.

Job Retraining and Worker Assistance Programs

Under either assumption (gradual or non-gradual) of NAFTA implementation, there will be winners and losers across industries. While US. employment as a whole will increase, individual workers who lose their jobs due to NAFTA would benefit from retraining programs. To be effective, worker assistance programs, whether EDWAA and/or TAA or another program, need to help a worker after notification of plant closing, etc. if possible, and if not, immediately after job loss. By nature, these job retraining and worker assistance programs will be needed for short periods of time and applied separately to different industries and regions.

Recognizing that low labor costs will be an advantage that Mexican industry will enjoy over at least the next ten years, worker assistance programs need to train workers in functions that exploit continuing competitive advantages of US. manufacturing, such as areas where technological applications are fundamental. The best examples are those industries where some job functions are already being transferred to low cost areas in Mexico, either through complete transplants, or under shared production in the "*maquiladora*" program. In that case, employment in US. firms will tend to concentrate on functions within companies that cannot be transferred to Mexico for a variety of reasons, including higher qualifications or specific functions that have high strategic value.

TAA was specifically designed to assist workers whose jobs were lost due to international trade, and thus was targeted to assist workers dislocated due to events such as NAFTA. While EDWAA was not limited to such persons, it is available to them and would be appropriate for workers dislocated by NAFTA. TAA and EDWAA have historically been small, underutilized and not well known.

- Total expenditures when TAA is Merged Into EDWAA are considerably less than when TAA is continued separately. Average annual expenditures for 1993 to 2000 are $583.3 million and $587.2 million under gradual and nongradual scenarios, respectively. When both programs are maintained separately, corresponding annual averages are $833.8 million and $839.5 million under the gradual and nongradual scenarios.

- There is no particular need for additional programs, especially since the training components of EDWAA generally fit with the needs of workers who need to be retrained in an economy that has permanently lost jobs in their industry while gaining in the economy as a whole.

- Retraining should be the major focus of all federal and state programs to assist dislocated workers, because job losses and gains by industry will be permanent. For example, worker training programs and research geared toward improving manufacturing techniques offer important ways by which the East South Central could begin rebuilding its industrial base in light of the impact of NAFTA.

- EDWAA programs are more likely than TAA programs to assist workers dislocated by NAFTA in making a satisfactory long-term transition. Both cost and retraining concerns point to the benefits of merging TAA into EDWAA.

- Existing programs should be more fully utilized to assist workers dislocated by NAFTA, but major increases in funding levels will be unnecessary due to an overall decrease in unemployment. While regional effects of NAFTA vary, no region will be saddled with an extraordinary number of displaced workers.

Further Areas of Study for Public Policy

The results of the study about the potential implications of NAFTA suggest that there are other important areas of public policy that will require further analysis in order to help to prevent dislocations in US industry and employment. In particular, DRI believes that fiscal policy could play an important role in this achieving that goal.

DRI's analysis indicates that NAFTA would aid high-wage industries over their low-wage counterparts. This will have implications for the allocation of investment between different types of industries. Therefore, this may require a review of US tax policy regarding investment in order to cushion NAFTA's negative impact on the more labor-intensive, low-wage sectors. A possibility would be that the US government might consider a transitional change to its tax structure in order to allow these industries time to prepare for NAFTA's complete implementation.

Although this is a much more complex issue that points at budgetary issues as well as long-term competitive issues, it is clear that current tax structures may have an influence on the investment decisions of labor- vs. capital-intensive firms. The difficulty in defining and implementing appropriate fiscal responses, however, suggests that further analysis should be done in this area in order to take into consideration all the repercussions of fiscal changes at the federal level. The macroeconomic impact extends from the effect on federal and state fiscal deficits to issues regarding other indirect labor costs beyond direct compensation, such as medical care costs. Current federal debate has begun to address these issues, and includes the possibility of capital gains tax cuts as an incentive to private investment, for instance.

States are beginning to define their priorities in terms of revenue generation and expenditures, and most are recognizing the beneficial impacts of new investment, not only from a fiscal standpoint but from one of job creation as well. In that respect, the use of tax concessions to stimulate investment appears to be a productive activity on the part of states, despite the foregone revenues. Although this idea in itself is not new, an innovative approach to this issue might focus on the design of such programs to specifically address the concessions that US industries would require in order to undertake investments as well as improve the balance between the use of labor- versus capital-intensive types of production. This approach hinges on the need to identify the important competitive issues for the long term, in order to avoid potentially damaging decisions regarding the implicit choice of industry and productive-process mix. Tax policies would need to be refined and defended in a way such that short-term fiscal revenue shortfalls carry an obvious benefit for the medium- and long-term.

Appendix A: Methodological Note

The analysis was conducted using DRI's macroeconomic models of the Mexico and the United States, as well as the regional model of the United States. Given that the actual impact of NAFTA will depend on the negotiated pact (including transition barriers and worker assistance), and on the expected impact (by industry and region), the study proceeded in distinct steps. First, the impact of NAFTA was analyzed with no transitional barriers in order to identify the broad industrial sectors and regions that would be most greatly affected. Second, a pact with plausible transition periods regarding official tariff reduction proposals in the most adversely affected sectors was studied in order to more realistically assess the impact of NAFTA. Third, the cost to the Federal government and the offsetting stimulative effects of the two existing worker assistance options, TAA and EDWAA, were compared.

Comparison of Nongradual trade liberalization with DRI's baseline provided an estimate of the maximum costs and benefits of NAFTA, while comparison of the Nongradual simulation with the scenario where the trade liberalization process is spread over the years helped to give an idea of the value of specific concessions in the negotiating process with Mexico. The results of these simulations were used in calculating the different impacts on the TAA and EDWAA programs in order to assess the relative benefits of alternative worker assistance policies.

In order to evaluate the costs and benefits of alternative NAFTA simulations in these comparisons in terms of overall economic growth, labor markets conditions, and indicators of consumer welfare, the study looked at the effects on employment by industrial sector and by region. This was accomplished through the linked use of the DRI models mentioned above.

The key linkage between the Mexico and US macro models, and the driving mechanism in the simulations, was the impact of lowered tariff and non-tariff barriers on imports and exports in the United States and Mexico, as discussed in the assumptions section. In Mexico, this impact was reflected on overall exports, investment, and income growth. In turn, demand for imported intermediate industrial inputs, capital goods, and consumer products reflected on US exports.

In the United States, reduced tariffs on trade with Mexico changed relative prices, affecting the composition of final demand and, indirectly, sectoral production, employment, and wages, the most important component of consumer income. Moreover, to the extent that changes in import prices and export demand influence inflation, the impact of NAFTA directly influenced household purchasing power and, indirectly, affected financial markets with possible effects on interest-sensitive sectors like consumer durables, housing, and business investment.

The results of the simulations of the Mexican model under different scenarios of trade liberalization were transmitted to the US macro model through the trade flows between both countries in the sectors under analysis. In turn, the results of the macro simulations were used as inputs into the regional model in order to achieve measurements on the impact on employment levels by sector and by region of the United States.

The impacts of NAFTA on US exports and imports are inputed into the US Macro model by means of add-factors on the appropriate export and import equations. This methodology allows second-round effects from price and activity changes on US exports and imports to be fully captured.

An explicit assumption is made about oil. Increases in US imports of Mexican oil are assumed to displace domestic production, not oil imports from other nations. No further model management is performed, the results therefore represent a "pure" simulation of the model.

The results of the macro simulation with the US model were then translated into DRI's regional model through the total amount of growth in income, employment, and population as exogenous, or fixed, variables determined by the solution of the US macroeconomic model. In the regional model, regions compete against one another on the basis of industry mix, characteristics of the region's export-base, proximity to markets, and relative costs of doing business. Costs, including wages, electricity and housing prices, also define the competitive element of the forecasting system. The final solution of the model imposes a zero-sum game: additional economic gains by a particular region must come at the expense of at least one other region. The sum of the regional solution for any one particular economic concept is constrained to its respective US total. This provides consistency and allows the direct comparison of economic impacts across industries and regions.

The regional model was enhanced to take account of US regional-Mexico trading patterns for the NAFTA study. The Census Bureau's state of origin two-digit Standard Industrial Classification (SIC) export database was aggregated to the regional level to identify industry-based trade flows with Mexico. A region's corresponding two-digit manufacturing sector was then weighted by a measure of its propensity to export and its proximity to Mexican markets. The solution of the model at the regional level thus identified the combination of two effects. These include a national industrial employment shift, dictated by the solution of DRI's macro model, and a regional shift, based on trade flows, proximity to markets, and gains or losses in a region's export-base. Non-manufacturing sectors, particularly services, transportation, communications, wholesale and retail trade were also weighted to capture the impact of larger commodity flows on regional economies.

Appendix B: DRI's Macroeconometric Models

DRI's Macroeconomic Model of the US Economy

Real household consumption is determined by relative prices, disposable income, wealth, financing costs, and consumer confidence. Housing demand depends on demographics, mortgage rates and other costs of ownership, and household income. Business investment, including vehicles, structures, office equipment and other durable equipment, is determined by the after-tax capital costs, capacity utilization (reflecting demand conditions), and replacement needs. Business inventory investment is highly cyclical, and depends on changes in final demand, short-term interest rates, and inflation.

Spending by government is largely exogenous at the Federal level, with spending for goods and services determined by assumptions about policy; deficits add to spending by increasing the size of interest payments on the debt. State and local expenditures are determined by population, income growth, and federal spending (reflecting matching grants), subject to budget constraints imposed by tax receipts.

Exports and imports (and the balance of trade) are determined by relative prices of US versus foreign goods, exchange rates, and international economic conditions. The exchange rate itself is determined by international capital flows, relative inflation, and differentials in trade deficits.

Exports less imports plus domestic demand represents total market demand, in turn determining industrial production and employment by sector, with various cyclical and trend variables that dynamically adjust the "input-output" relationships between major industries to reflect intermediate demand conditions. After adjustments for trade, payments to the factors of production generate national income. Labor income is determined by wage rates and total employment and capital income (interest, dividends, and rent) is determined by rates of return and total liabilities. Tax revenues are determined by the tax rates corresponding to each income stream, net of deductions or tax credits, as well as excise and property taxes.

Inflation is determined by the interaction of wages and prices, with changes in wage rates reflecting changes in prices that, in turn, reflect supply and demand in relevant markets. Consumer and industrial prices are determined by wages, productivity and the costs of imported inputs. In financial markets, interest rates are modeled as a term structure, keying on the pivotal federal funds rate and short-term Treasury rates. Short-term rates are determined by demand for money relative to supply, with the latter determined by Federal Reserve open market activities, and long-term interest rates are then determined by inflation, government and corporate borrowing requirements, and market volatility.

Finally, at the core of the model, potential national output is determined by the supply of labor, capital, energy, and R&D-driven technological change (total factor productivity). Factors which influence labor supply directly, or influence the productivity of labor (hence real wage growth) by influencing capital formation, energy supply, or technological change have a significant effect on long term growth.

This framework allows DRI to trace the impact of NAFTA on the US economy in great detail, as reduced tariffs change imports and exports, directly affecting sectoral production and employment, consumer income and spending, investment and financial markets.

DRI Regional Model of the US Economy

The Regional Information Service uses a system of quarterly models to forecast over 100 concepts for each state and region. The principal indicator of sectoral economic activity is employment, which is forecast separately for 20 manufacturing and about 10 non-manufacturing industries. Wage rates and major components of income are modeled, and the housing sector is examined in detail, with forecasts of single- and multi-family housing starts, and the corresponding actual and desired stocks. Population, labor force, and unemployment rates are also predicted within the model.

The regional model analyzes the different parts of the US in a two-stage procedure. The country is first broken down into nine regions (approximately the nine Census Divisions) in the Core model; there are then nine separate regional models which bring the forecasts to the state level. This approach has been adopted both because it reduces the costs of solving whenever the complete 50-state detail is not required, and also for theoretical reasons. Specifically, the focus of DRI's Core model is an analysis of the relative success of each geographical area in attracting and holding onto the kinds of industries that serve national markets.

Manufactured goods are transportable, so regional manufacturing activity depends on US demand conditions and represent a key component of an area's economic base. Relative regional manufacturing employment by sector is determined by inter-regional differentials in the cost of doing business, including wage rates, tax burden, and energy costs, as well as measures of the cyclical sensitivity of the industry at the national level. Factors that determine attractiveness of the area to business, such as climate, unionization, educational levels, personal taxes and home prices also influence location decisions, and therefore determine regional employment shares. To supplant discontinued data series, DRI has developed indices of industrial production by industrial sector that combine detailed US sectoral productivity information and regional employment statistics.

Certain elements of non-manufacturing employment are also part of an area's economic base, including mining, which is determined by resource availability and US demand, and federal government employment, which is distributed largely on the basis of population. Employment in the transportation, communications, and utilities, wholesale and retail trade, finance, insurance, real estate, and services may reflect both local and national market conditions. In the model, activity in these sectors is determined both by US activity levels and local income measures. In contrast, construction employment is determined entirely by indices of local demand for structures and upkeep of existing structures, while state and local government employment is determined by local tax revenues.

Regional housing activity is determined by demographics and a measure of affordability based on region income, home prices, and interest rates, with a term intended to capture the effect of shifts in speculative development. Regional retail sales of durable and non-durable goods are determined by disposable income.

The largest component of personal income is wages and salaries, and manufacturing wage rates by sector within each region are determined by national wage rates and local labor market conditions. Non-manufacturing wages follow manufacturing, except that in general they are somewhat more sensitive to transitory labor-market conditions. The components of non-wage income, including other labor income, transfer payments, and capital income, are determined by the corresponding national concept and relevant regional factors. In turn, consumer prices at the regional level are constructed by using Consumer Expenditure Survey information on household budgets in order to re-weight the national CPI components, but incorporating region-specific housing costs. These indices capture the regional impact of price changes that affect household purchasing power.

Because migration is sensitive to economic conditions, regional population shares are determined by employment and wage rates, with non-economic factors like climate also playing a role. Regional labor force is determined as a fraction of working-age population, taking into account the broad national changes in labor-force participation rates, with a regional business cycle index to capture the "discouraged worker" effect. Finally, the regional unemployment rate is determined by employment relative to the labor force. This structure allowed DRI to fully evaluate the impact of NAFTA on employment and consumer welfare at the regional level, given differences in regional industrial specialization and relative costs.

Manufacturing Employment. The manufacturing sector is examined in detail, because of its importance in each area's economic base. All of the 20 two-digit SIC industries are analyzed separately, in a pooled time-series, cross-sectional framework. This technique makes possible the inclusion of a variety of cross-sectional concepts which could not be used in a conventional time-series regression. These include climate and attractiveness, which do not change over time, and other variables such as unionization, education, personal and business taxes, which change so rarely or so gradually that they are not distinguishable from a time trend in the absence of cross-sectional methods.

Four categories of explanatory variables are used. First, there is a market demand, or gravity, concept, which captures the effects of inter-regional movements in the markets for the output of each industry. This uses national input-output coefficients to estimate the demand for each sector's output in each region, and weights them by distance. The importance of distance varies with transportation costs, so that distance is weighted very highly in SIC 32 (stone, clay, and glass), and is relatively unimportant in SIC 38 (instruments), for instance.

Movements in regional markets are important, but will not take place unless there are other factors operating already. The second major type of variable explaining these movements relates to the mix of activities within each two-digit SIC sector. Where DRI's national model forecasts at the three-digit level, the historical mix in each region has been used to construct and indicator of the relative growth that the region can expect simply on the basis of differences in three-digit mix. In addition, another variable has been designed to measure differences in the amplitude of the business cycle in each industry among regions; this allows implicitly for the effects of different three-digit mixes even when there are no reliable forecasts of the separate three-digits markets.

Thirdly, the model looks at relative costs of doing business, including wage rates, tax burdens, energy prices (using electricity prices as a proxy), unionization and education of the labor force, and home prices. Most of these are examined both in terms of the impact of existing inter-regional differentials, and also in terms of the effect of different rates of change, in order to distinguish between variables whose effects persist over time, and those which matter only when they change.

Finally, it is clear that a significant factor in many business and personal decisions is the underlying quality of life; the model looks at climate (measured by heating degree days), top personal tax rates, and a general measure of attractiveness (the indicator use is the proportion of total employment dependent on tourism).

Not all of these variables are significant in every industry or within every region, but in total they all have a substantial impact on the location of manufacturing jobs. The forecasts of theme come from other DRI services (e.g., electricity prices for the energy service), or are assumptions which can be changed by the user (e.g., unionization, tax rates), or are endogenous to the regional model (e.g., wage rates, home prices, market demand).

Industrial Production. Data on industrial production by industry has not been available at the state level for a number of years, since budget cuts caused the Bureau of the Census to cease publishing the state results for the annual Survey of Manufacturers. It is likely that publications of these series will resume in the future, but it will still be annual data, generally released with a one- or two-year lag. DRI has therefore developed production indices based on national input-output data and state employment statistics. The assumption is made that output per employee is the same in all states at the 400-sector level of detail from DRI's input-output table. This is then combined with data from County Business Patterns on employment by four-digit SIC codes, to generate measures of output per employee by state for two-digit manufacturing industries; these differ from state to state because of the different four-digit mix within each two-digit sector. These two-digit productivity series are then applied to the two-digit employment forecasts from the regional model to provide levels of industrial output, which are then indexed to a base of 1.0 in 1973 (first quarter).

Non-Manufacturing Employment Certain elements of non-manufacturing employment are also part of an area's economic base. Mining employment is driven by information from DRI's Coal, Steel and Drilling services, and by the model's own forecast of construction activity. Federal government employment, which is distributed largely on the basis of population, can also be viewed as part of the economic base. Most non-manufacturing sectors, however, are principally driven by the local economy. Construction is entirely oriented towards local demand, being driven by indexes of residential and nonresidential construction activity. The residential index depends on single- and multi-family housing starts in recent quarters; the nonresidential index is a function of positive changes in total non-construction employment (representing the demand for new work places), and of the overall level of employment (representing the normal demand for maintenance and alternations of existing structures). State and local government employment is determined by tax revenues, using average business and non-business tax rates in relation to total personal income in the state. The other non-manufacturing sectors are:

- Transportation, communications, and utilities;
- Trade;
- Finance, insurance, and real estate;
- Services

All of these are primarily driven by local needs, but each contains components that serve wider markets. International and national banking and insurance, many business services, and a wide variety of activities related to tourism, are all examples of economic-base elements within non-manufacturing. The proportion of each of these four sectors which is export-oriented has been estimated by means of a minimum-requirements test. For each sector, the proportion of total employment was calculated for every state and region, and the lowest proportion was used as an indicator of the amount of, for example, service employment which is "needed" by a demand in the rest of the region and the rest of the country.

Wages and Incomes. The largest component of personal income is wages and salaries; the model therefore focuses on wage rates, identifying separately hourly wages in manufacturing, and average annual wages and salaries in manufacturing and in non-manufacturing by one-digit SIC sector (the same level of disaggregation as for employment). Average hourly wage rates are forecast using a measure of national wages adjusted for each state's two-digit manufacturing mix. Regional wage rates grow at the rate determined by industry mix, with some tendency to convergence, and also with a pressure for faster growth if total employment is growing faster than in the rest of the country. Non-manufacturing wages follow manufacturing, except that in general they are somewhat more sensitive to transitory labor-market conditions.

For wages, equations were estimated at the national level for average annual wages and salaries in each sector using forecasts of hourly wage rates from DRI's Cost Forecasting Service where appropriate, and relative sectoral growth in other cases. These national average annual wage rates were then used to generate regional and state forecast s, by imposing the same relative rates of growth. For example, if construction wages in the nation are forecast to grow 10% faster than the average for non-manufacturing in the third quarter of 1985, then this same relationship will be assumed to hold in each region. This does not imply that construction wages will be forecast to grow at the same rate everywhere, since average non-manufacturing wages are forecast for each state and region based on a complex set of factors reflecting economic activity in the area, and these can and do differ substantially from place to place. A constraining procedure is also used to ensure that the total amount of wage and salary disbursements implied by these wage rates is consistent with the national and regional forecasts.

Non-wage income is divided into two aggregates, taxable and non-taxable. The equations for these include terms relating to each major component of non-wage income:

- Other labor income;
- Transfer payments (federal and state and local);
- Resident adjustment;
- Non-farm proprietors' income;
- Property income (dividends, interest, and rent).

Each term looks at the relevant national variable, and at a regional concept which can be viewed as driving the particular type of income. Farm proprietors' income is treated separately, using DRI's forecasts of state production and cash receipts from crops and livestock.

The final critical category of income in regional analysis is the residence adjustment; this is required because official estimates of wage income are based on data collected by place of work, while income is defined as place of residence. The adjustment thus represents an addition to income if many residents commute across state lines to work, and a negative number if many of the state's job are held by residents of other areas. The specification of the equation for the residence adjustment therefore depends upon the sign of the concept over history; where it is negative, it is estimated as a proportion of total wages and salaries in the state (or region); where it is positive, it has been estimated as a proportion of total wages and salaries in neighboring states or regions to which it appears that area residents commute. Generally, commuting is to and from contiguous areas, which can be easily identified by finding major metropolitan areas that lie across or close to state lines (e.g., New York City); occasionally, specific events cause "commuting" over long distances, such as Texas to Alaska during the construction of the trans-Alaska oil pipeline.

Population and Labor Force. Population in the regional model is estimated using a pooled time-series cross-sectional technique similar to the manufacturing sector. This ensures that regional population forecasts will add up to the total given by the DRI model.

The main determinant of differential population growth is employment. In the regional model, people, for the most part, follow jobs. There is an additional element of migration in response to relative wage rates, and also a non-economic component due to climate and attractiveness; this is largely a reflection of the increasing trend towards retirement in the Sun-belt. It seems that in general people move towards fast-growing regions, rather than away from depressed ones, so that there is more movement when the overall economy performs more strongly. This effect is captured in the model by the particular coefficients on relative employment and wage rate growth.

The labor force is forecast as a fraction of total population, taking into account the broad national demographic changes in labor-force participation rates; the regional equations also include a measure of business recessions, to capture what is known as the "discouraged worker" phenomenon: people who cannot find work eventually stop looking.

The unemployment rate is forecast on the basis of labor force and total employment. This equation is not an identity, because the employment statistics are on an establishment (place of work) basis, and exclude agriculture and self-employment, while the labor force and unemployment rate come from Current Population Survey. This is a household (place of residence) survey, and counts all forms of employment (including even temporary absence from a job due to strikes).

Housing. Housing is modeled in the regional system using a modified stock-adjustment method. First, a time series was created for the total stock of homes (including mobile homes) by state, using the 1960, 1970, and 1980 Census, together with data on housing starts and mobile home shipments. The implied depreciation rate, which is affected by the actual history of conversions as a proportion of stock, is subject to the forecasters' judgment regarding likely future conversion rates. Second, an equation was estimated for the actual stock, using population aged 18 to 64, and a composite measure of affordability. This includes average regional household income, interest rates, and regional home prices. This equation was then solved over history, to yield an estimate of the desired, or trend, housing stock.

Total housing starts are estimated on the basis of the gap between the desired and actual stocks, together with affordability (both a long-term moving average and short-term variations around the moving average). Also included is a speculation variable, modeled as the latest four-quarter increase in the desired stock (demand). Thus if demand has been increasing rapidly, builders may keep on building, even after the underlying demographics have turned down. In states where this is an important term in the equation, relatively large cycles may be observed in housing starts.

Total housing starts are divided into single and multiple units based both on trends in the national mix, and on regional average incomes. It is assumed that single-family homes are the generally preferred form of housing, and that higher incomes will bring more singles, other things being equal.

Retail Sales. The regional models include retail sales (durables and non-durables) for the nine regions. Detail has now been added for all those states for which data are published, using each state's share of the region's disposable personal income to forecast changes in its share of regional retail sales. Estimates were also made of implied retail sales in the non-reporting states, so as to ensure that the state and regional forecasts are both realistic and consistent. The state forecasts, like the existing regional series, are broken down into durables and non-durables, since sales in these two major categories respond to different influences, particularly in terms of their behavior over the business cycle.

DRI's Macroeconomic Model of the Mexican Economy

DRI/McGraw-Hill has developed a systematic modeling approach to analyze the impact on growth, production, trade, employment, income, and labor costs in Mexico and the United States arising from the potential North American Free Trade Agreement (NAFTA). This capability allows the analysis by industry; additionally, the effect of NAFTA can be analyzed at the regional level for the United States. The novelty of the issue, a free trade agreement between countries of such disparate development levels, and the limitation imposed by the lack of sufficient quality data from Mexico, contributed to define this approach. Also, the fact that this Agreement is still in the process of being negotiated, thus denying the analysts any concrete parameters to stimulate alternative scenarios, required the elaboration of an analytical framework that can be used with flexibility given the as yet undefined issues about NAFTA.

DRI's macroeconomic model of Mexico is designed to capture the effects of domestic and international policies and private-sector behavior on Mexican output, prices, and international trade and payment flows. In the model, aggregate consumption is determined by demographic factors and income, while investment responds to industrial capacity constraints. Spending by government is exogenous and reflects policy assumptions. Imports are determined by domestic demand conditions and domestic prices relative to foreign prices, while exports depend on relative prices and trade-weighted indices of foreign economic growth. Domestic demand plus net exports determines industrial production.

Sectoral wholesale prices are determined by import prices, industrial capacity utilization indices, and measures of money supply, while consumer prices depend on wholesale prices, import prices, and money supply. Sectoral wage rates are determined by average labor productivity in manufacturing and consumer price inflation. In the financial sector, interest rates are determined by foreign rates and domestic inflation, while exchange rates are determined by domestic and foreign inflation rates. The model also maintains an aggregate balance sheet tracking Mexico's foreign assets and liabilities.

DRI combined its basic forecast capabilities derived from its proprietary macroeconometric models of the US and Mexican economies with new capabilities based on input/output analysis. This approach integrates the methodology associated with input/output analysis at the productive sector level with that of macroeconomic modeling at the country level. Applications using the standard input/output model generally treat the vector of final demand as exogenous, that is, determined outside the scope of the model. Given the fact that DRI's Mexican macroeconometric model already provides forecasts for this final demand vector, joining both methodologies became a logical step in order to produce sector-specific forecasts about the impact of the potential NAFTA.

Some advantages of this methodology are:

- This type of analysis provides a consistent framework to study the interactions between different industries.

- Technical coefficients of the input/output matrix can be easily linked with the results of DRI's traditional macroeconometric models.

- The results are provided through a simultaneous system.

Forecasts can be produced on an annual basis, based on assumptions about the speed of trade liberalization by sector. The advantage to this approach is that it allows the client to introduce different assumptions deemed as the most likely under NAFTA. This is an important feature that distinguishes this analytical framework from other "black box" kind of approaches that only provide a single answer based on one scenario.

NAFTA negotiations had not been finished at the time this study was completed. For that reason, any analysis conducted before the characteristics of that agreement are known has to rely on those assumptions considered to be the most viable. In DRI's methodology, these assumptions cover four fundamental areas:

- The start date for trade liberalization,

- the time span in which this agreement will be fully implemented,

- the speed of trade liberalization by industry in both countries,

- and the speed of assimilation of *maquiladora* activity into total Mexican exports and imports.

The two main exogenous levers for trade between Mexico and the United States are:

- The degree of trade protection between both countries, measured by average tariffs and the existence of non-tariff barriers to trade in specific products, and

- the degree of assimilation of -*maquiladora*" activities into the mainstream Mexican trade with the United States.

There are three main advantages of this approach:

1. It allows not only the analysis of the current situation, but more important, it gives the analyst enough flexibility to incorporate the actual structure of NAFTA (once it is negotiated and the speed of liberalization is known) into the model, in order to calculate the effects of such agreement over time.

2. Estimating Changes in Total Final Demand Components: For instance, rather than creating separate assumptions per sector, it could be assumed that there is a change in one (or several) of the final demand components on an aggregate basis. In that case, all is needed is to provide at the beginning a scenario for the final demand components. The result will be a series of elements that answer questions such as what the sectoral impact on total production and employment of an increase in total investment in the economy would be.

3. Also, it allows the analysis of the US and Mexican economy under alternative scenarios not related to the free trade issue, such as estimating changes in final demand components (for instance, the impact of larger influx of investments, or different government spending programs), or exogenous changes to the external environment (such as a recession in the United States, higher oil prices, lower interest rates, etc.).

This structure permits DRI to assess both the direct and indirect effects of NAFTA on Mexican demand for US goods, thereby capturing the full impact of altered trade patterns on the US economy.

The following types of questions can be answered with this approach:

- How will industry-specific exports and imports react to changes in trade barriers under NAFTA?

- Which industries will be most affected by changes in the levels and/or composition of exports?

- How will specific industries be affected by higher growth in capital spending or a change in the level of private consumption?

- How will manufacturing employment be affected in specific industries?

- How will total production in an industry be affected if exports or imports of such industry increase?

- How will growth, employment, production and income vary by region in the United States?

The economic impact of NAFTA can be measured on the following key economic variables:

- Overall GDP
- Employment and Compensation by sector
- Unit Labor Cost Indices by Sector
- Imports and Exports by Sector
- Investment by Sector
- Productivity by Sector
- Growth by Sector
- The relationship between growth and investment by sector

The key linkage between the Mexican and US models, and the driving mechanism in the simulations, will be the impact of lowered tariffs on imports and exports in each country. In Mexico, NAFTA will increase overall exports, employment in modern industry, and income growth. In turn, demand for imported intermediate industrial inputs, capital goods, and consumer products will bolster US exports. In the long-term, as Mexican incomes rise, demand will tend to shift from US manufactured exports to high-skill services, especially financial and business services, strengthening these increasingly important sectors of American industry.

APPENDIX C: Data Sources

The analysis provided in this study was based on information obtained from official sources. The forecasts of the US economy are produced with data supplied by all the relevant statistical agencies in this country. Data on Mexico derives mostly from two main sources: Bank of Mexico and the National Institute of Geography and Statistics of the Ministry of Finance. Information pertaining to international trade with Mexico is based on OECD and Department of Commerce data. For the detailed regional and sectoral analysis, the information sources are as follows:

Employment

Civilian labor force, employment, and unemployment rate concepts are updated by the second week of each month in DRI's historical database @MARKETS. These concepts for the eleven largest states in the nation contribute to the monthly release of the Bureau of Labor Statistics' (BLS) Current Population Survey. The survey covers over 50,000 selected households in the United States to determine individuals' employment status, duration of unemployment, etc. The remaining states' labor market agencies, in cooperation with the BLS, also report monthly estimates of labor force and employment. The reporting of these data to the Bureau lags by a period of six weeks. In general, the estimates are revised at the beginning of each year to reflect new benchmarks provided by the Current Population Survey.

A second survey, commonly referred to as the BLS 790 program, collects employment and wage information for a sample of nonagricultural establishments. In contrast to the determining the number of employed residents in a given location under the Current Population Survey, the 790 program tabulates the number of jobs by place of employment. The survey is quite comprehensive (it includes a greater than a 30% sample of all nonagricultural establishments in the US) and provides important information on wage levels by standard industrial classification (SIC). DRI's database @MARKETS contains the results of this survey, which becomes available with a lag of one month.

In the Regional Information Service's quarterly *state and regional model*, the most recent Current Population Survey and 790 data are employed. For example, the November regional simulation includes historical employment and labor force information for the third quarter of the year. DRI seasonally adjusts, and converts data to a quarterly frequency for use in the regional model. The industrial employment series are then summed to derive total nonfarm employment (EEASUM in the regional model).

Personal Income

State-level quarterly personal income accounts are released by the Bureau of Economic Analysis (BEA). The release provides coverage of total personal income by place of residence; wage and salary income; taxable and nontaxable non-wage income, which include proprietors' income, dividends, interest and transfer payments. The full quarter lapses between the last quarter of history and its reporting by the BEA. For instance, the second quarter personal income accounts are generally released by late October and available in DRI's @MARKETS. The Regional Information Service's state and region model history corresponds to the release of personal income. For the November simulation, second quarter personal income accounts are employed.

Several revisions are made to personal income over the course of the year in order to reflect changes in employment information (including the ES202) for wages and salaries, revised tax information for non-wage accounts, and changes to the National Income and Product Accounts (NIPA). In certain instances, the revisions to state income accounts can date back three years or more.

Population

Population data (from the Census Bureau's P25 reports) are updated every January in @MARKETS made available in @RIS/HISTORY with the winter release of the TRENDLONG forecast. The data reflects population levels as of July 1 of the previous year (April 1st for census years). Quarterly population data in the state and regional model is distributed linearly from annual values. For the November forecast, population data was historical through the first quarter of 1990.

STATISTICAL APPENDIX

Net Impacts of Gradual and Nongradual Scenarios

TABLE 1

Net Impact of Gradual Case, 1993-2000 (Thousands of Persons)

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
EMPLOYMENT - TOTAL NON-AGRICULTURAL	-2.284	-11.047	-8.216	-11.839	-17,443	-5.497	41.745	-9.163	57.539	33.795
EMPLOYMENT - CONSTRUCTION	-2.174	-8.952	-10,908	-9.627	-4.409	-3.867	-4,230	-2.658	-8.148	-54.973
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE	-0.830	-1.771	-1.324	-2.231	-1.256	-1.014	2.937	-0.907	4.420	-1.978
EMPLOYMENT - TRADE	-2.577	-7.338	-4.595	-10.153	-5.051	-4.197	10.875	-3.432	17.840	-8.628
EMPLOYMENT - TRANSPORTATION & UTILITIES	-0.123	-0.045	-0.722	-0.462	-1.017	-0.145	3.080	-0.426	3.873	4.013
EMPLOYMENT - SERVICES	1.435	5.304	7,511	0.777	-1.810	1.364	14.405	-1.213	19.957	47.730
EMPLOYMENT - MINING	0.000	-0.017	-0.032	-0.010	-0.133	-0.018	0.133	-0.061	0.001	-0.136
EMPLOYMENT - TOTAL MANUFACTURING	1.675	2.666	-0.167	9.048	-2.712	1.514	8.305	-0.192	11.656	31.794
EMPLOYMENT - FOOD & PRODUCTS	-0.052	-0.278	-0.113	-0.074	-0.228	0.000	0.466	-0.049	0.156	-0.163
EMPLOYMENT - TEXTILE MILL PRODUCTS	-0.102	-0.078	-1.411	-0.042	-0.270	-0.006	-0.006	-0.004	-0.040	-1.959
EMPLOYMENT - APPAREL & PRODUCTS	-0.130	-0.403	-0.898	-0.173	-0.729	-0.148	-0.098	-0.033	-0.357	-2.957
EMPLOYMENT - LUMBER & WOOD PRODUCTS	-0.252	-0.404	-1.452	-0.580	-0.983	-0.397	-0.615	-1.108	-0.931	-6.722
EMPLOYMENT - FURNITURE & FIXTURES	-0.092	-0.110	-0.410	-0.287	-0.246	-0.119	0.074	-0.039	-0.047	-1.276
EMPLOYMENT - PAPER & PRODUCTS	-0.058	-0.078	-0.046	-0.105	-0.040	-0.034	-0.002	-0.011	-0.016	-0.389
EMPLOYMENT - PRINTING & PUBLISHING	-0.109	0.075	0.132	0.287	-0.191	0.000	0.127	-0.025	0.363	0.660
EMPLOYMENT - CHEMICALS & PRODUCTS	-0.059	0.927	1.013	0.550	-0.127	0.029	1.047	0.015	0.397	3.792
EMPLOYMENT - PETROLEUM & COAL PRODUCTS	-0.002	0.037	-0.003	0.041	0.009	0.006	0.096	0.007	0.059	0.250
EMPLOYMENT - RUBBER & PLASTICS	0.131	0.294	0.176	1.094	0.168	0.033	0.535	-0.002	0.479	2.909
EMPLOYMENT - LEATHER & PRODUCTS	-0.214	-0.198	-0.077	-0.215	-0.115	-0.146	-0.136	-0.005	-0.088	-1.194
EMPLOYMENT - STONE, CLAY, & GLASS	-0.090	-0.448	-0.552	-0.574	-0.230	-0.191	-0.270	-0.071	-0.369	-2.795
EMPLOYMENT - PRIMARY METALS	-0.098	-0.104	-0.073	-0.041	-0.143	-0.095	0.169	-0.029	0.097	-0.318
EMPLOYMENT - FABRICATED METAL PRODUCTS	-0.156	-0.043	-0.331	0.099	-0.304	-0.165	0.682	-0.037	0.316	0.056
EMPLOYMENT - NONELECTRICAL MACHINERY	1.068	1.054	1.036	3.758	-0.353	1.604	3.231	0.063	4.976	16.439
EMPLOYMENT - ELECTRICAL MACHINERY	0.820	0.960	1.034	1.183	0.146	0.146	1.635	0.061	3.555	9.540
EMPLOYMENT - TRANSPORTATION EQUIPMENT	0.823	0.785	1.456	3.830	0.891	0.902	1.061	1.009	1.928	12.686
EMPLOYMENT - INSTRUMENTS	0.418	0.788	0.338	0.398	0.051	0.205	0.180	0.075	0.808	3.251
EMPLOYMENT - MISCELLANEOUS	-0.123	-0.114	-0.109	-0.101	-0.060	-0.074	-0.002	-0.025	-0.062	-0.658

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TABLE 2

Net Impact of Gradual Case, 1993-2000

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
PERSONAL INCOME (BILLIONS)	3.759	9.218	11.130	10.031	2.384	4.442	9.492	2.293	17.226	69.975
WAGE & SALARY DISBURSEMENTS	2.324	5.518	7.282	6.295	1.541	2.673	6.319	1.460	11.048	44.460
FARM PROPRIETORS' INCOME	0.000	0.002	0.012	0.021	0.009	0.048	0.028	0.010	0.022	0.152
AVERAGE ANNUAL WAGE - MANUFACTURING	0.449	0.408	0.353	0.390	0.316	0.366	0.406	0.412	0.450	0.398
AVERAGE ANNUAL WAGE - NON-MANUFACTURING	0.328	0.312	0.322	0.287	0.291	0.293	0.361	0.322	0.378	0.328
AVERAGE HOURLY EARNINGS - MANUFACTURING	0.174	0.170	0.154	0.184	0.150	0.169	0.176	0.193	0.194	0.175
PRIVATE HOUSING STARTS	-0.874	-1.407	-4.654	-2.199	-1.402	-1.154	-1.226	-1.048	-3.550	-17.513
RESIDENT EMPLOYMENT (THOUS.)	-3.129	-12.074	-7.226	-9.135	-10.549	-4.979	32.517	-6.513	38.536	17.449
LABOR FORCE (THOUSANDS)	-3.035	-12.686	-6.455	-8.763	-5.685	-5.005	31.485	-5.686	34.199	18.368
UNEMPLOYMENT RATE	0.006	0.003	0.008	0.006	0.068	0.004	-0.015	0.022	-0.022	0.003
RESIDENT POPULATION (MILLIONS)	-0.007	-0.025	-0.015	-0.020	-0.018	-0.010	0.047	-0.011	0.060	0.000

Note on units of measure:
Personal Income - $ Billions
Wage and Salary Disbursements - $ Thousands
Farm Proprietor's Income - $ Thousands
Average Annual Wage-Mfg. - $ Thousands
Average Annual Wage- Non-Mfg. - $ Thousands
Average Hourly Earnings- Mfg. - $
Private Housing Starts - Thousands
Unemployment Rate - %

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TABLE 3

Net Impact of Nongradual Case, 1993-2000 (Thousands of Persons)

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
EMPLOYMENT - TOTAL NON-AGRICULTURAL	-16.700	-35.096	-33.222	-49.558	-29.333	-25.352	18.763	-18.361	15.887	-172.973
EMPLOYMENT - CONSTRUCTION	-2.247	-10.279	-11.831	-10.360	-4.967	-4.737	-5.611	-2.626	-8.928	-61.586
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE	-1.120	-2.293	-0.972	-2.633	-1.376	-1.417	0.887	-1.115	0.578	-9.462
EMPLOYMENT - TRADE	-6.219	-10.635	-10.653	-13.641	-6.808	-7.959	5.120	-5.302	8.025	-48.073
EMPLOYMENT - TRANSPORTATION & UTILITIES	-0.566	-1.149	-2.051	-1.819	-1.482	-1.972	1.683	-0.993	0.642	-7.708
EMPLOYMENT - SERVICES	-1.705	-0.569	4.503	-3.307	-3.547	-2.623	8.499	-3.681	10.466	8.036
EMPLOYMENT - MINING	-0.007	-0.158	-0.380	-0.251	-0.298	-0.110	-0.207	-0.163	-0.078	-1.650
EMPLOYMENT - TOTAL MANUFACTURING	-4.250	-8.560	-13.179	-16.935	-9.266	-6.442	3.523	-3.892	-0.749	-59.750
EMPLOYMENT - FOOD & PRODUCTS	-0.271	-0.645	-1.008	-0.818	-0.643	-0.558	0.091	-0.331	-0.491	-4.664
EMPLOYMENT - TEXTILE MILL PRODUCTS	-0.239	-0.293	-2.581	-0.087	-0.457	-0.012	-0.051	-0.015	-0.114	-3.850
EMPLOYMENT - APPAREL & PRODUCTS	-0.256	-1.012	-1.565	-0.369	-1.174	-0.292	-0.340	-0.089	-0.650	-5.733
EMPLOYMENT - LUMBER & WOOD PRODUCTS	-0.317	-0.536	-1.652	-1.027	-1.019	-0.488	-0.823	-1.315	-0.769	-7.945
EMPLOYMENT - FURNITURE & FIXTURES	-0.150	-0.269	-0.749	-0.557	-0.385	-0.213	0.078	-0.078	-0.046	-2.366
EMPLOYMENT - PAPER & PRODUCTS	-0.262	-0.399	-0.349	-0.590	-0.230	-0.192	-0.112	-0.084	-0.132	-2.350
EMPLOYMENT - PRINTING & PUBLISHING	-0.438	-0.406	-0.070	-0.369	-0.617	-0.240	0.032	-0.159	0.470	-1.797
EMPLOYMENT - CHEMICALS & PRODUCTS	-0.400	-0.085	0.283	-0.138	-0.809	-0.343	1.031	-0.107	-0.245	-0.813
EMPLOYMENT - PETROLEUM & COAL PRODUCTS	-0.004	0.006	-0.006	0.009	-0.002	-0.002	0.045	-0.001	0.027	0.072
EMPLOYMENT - RUBBER & PLASTICS	-0.146	-0.735	-0.262	-1.474	-0.597	-0.236	0.197	-0.053	-0.368	-3.673
EMPLOYMENT - LEATHER & PRODUCTS	-0.293	-0.283	-0.108	-0.329	-0.153	-0.202	-0.200	-0.008	-0.128	-1.704
EMPLOYMENT - STONE, CLAY, & GLASS	-0.141	-0.651	-0.811	-0.823	-0.355	-0.284	-0.353	-0.105	-0.517	-4.040
EMPLOYMENT - PRIMARY METALS	-0.324	-0.712	-0.793	-2.309	-0.664	-0.447	-0.086	-0.210	-0.243	-5.785
EMPLOYMENT - FABRICATED METAL PRODUCTS	-0.646	-0.813	-1.276	-3.163	-0.720	-0.866	0.579	-0.155	-0.289	-7.351
EMPLOYMENT - NONELECTRICAL MACHINERY	-0.642	-0.825	-0.640	-0.585	-1.020	-0.816	1.954	-0.431	2.254	-0.816
EMPLOYMENT - ELECTRICAL MACHINERY	-0.159	-0.572	-0.629	-1.472	-0.576	-0.476	0.508	-0.246	0.671	-2.950
EMPLOYMENT - TRANSPORTATION EQUIPMENT	1.004	0.100	-0.179	-2.446	0.380	-0.127	1.013	-0.171	0.723	0.299
EMPLOYMENT - INSTRUMENTS	-0.166	-0.034	-0.084	-0.063	-0.024	-0.048	0.004	-0.092	-0.443	0.949
EMPLOYMENT - MISCELLANEOUS	-0.280	-0.398	-0.285	-0.323	-0.118	-0.181	-0.100	-0.072	-0.234	-1.979

TABLE 4

Net Impact of Nongradual Case, 1993-2000

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
PERSONAL INCOME (BILLIONS)	2.722	7.421	9.211	7.416	1.628	3.150	7.878	1.685	13.997	55.108
WAGE & SALARY DISBURSEMENTS	1.453	3.853	5.550	3.892	0.883	1.621	4.990	0.922	8.374	31.538
FARM PROPRIETORS' INCOME	0.000	0.002	0.014	0.023	0.010	0.054	0.031	0.012	0.025	0.170
AVERAGE ANNUAL WAGE - MANUFACTURING	0.411	0.373	0.310	0.328	0.268	0.320	0.366	0.372	0.409	0.350
AVERAGE ANNUAL WAGE - NON-MANUFACTURING	0.287	0.272	0.282	0.246	0.250	0.251	0.320	0.280	0.329	0.285
AVERAGE HOURLY EARNINGS - MANUFACTURING	0.154	0.149	0.135	0.157	0.129	0.145	0.156	0.167	0.169	0.151
PRIVATE HOUSING STARTS	-0.998	-1.963	-5.838	-2.061	-1.409	-1.180	-0.987	-0.878	-1.537	-16.851
RESIDENT EMPLOYMENT (THOUS.)	-17.407	-35.445	-32.928	-42.552	-12.997	-19.958	12.342	-14.179	0.192	-162.930
LABOR FORCE (THOUSANDS)	-7.834	-12.399	-8.240	-16.117	-3.086	-12.411	24.741	-7.389	21.697	-21.038
UNEMPLOYMENT RATE	0.138	0.124	0.106	0.122	0.132	0.082	0.080	0.124	0.091	0.108
RESIDENT POPULATION (MILLIONS)	-0.011	-0.018	-0.003	-0.018	-0.018	-0.013	0.040	-0.011	0.052	0.000

Note on units of measure:
Personal Income - $ Billions
Wage and Salary Disbursements - $ Thousands
Farm Proprietor's Income - $ Thousands
Average Annual Wage-Mfg. - $ Thousands
Average Annual Wage- Non-Mfg. - $ Thousands
Average Hourly Earnings- Mfg. - $
Private Housing Starts - Thousands
Unemployment Rate - %

TABLE 5

Gradual Minus Baseline Case, 2000 (Thousands of Persons)

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
EMPLOYMENT - TOTAL NON-AGRICULTURAL	646.216	1342.194	2619.139	1752.749	551.981	779.823	1375.392	521.604	2741.949	12331.047
EMPLOYMENT - CONSTRUCTION	46.919	110.995	272.847	171.863	54.435	67.689	125.732	50.947	216.851	1118.279
EMPLOYMENT - FINANCE, INSURANCE, REAL ESTATE	45.446	110.709	146.412	92.722	23.718	38.334	73.016	27.465	160.066	717.887
EMPLOYMENT - TRADE	191.427	382.984	818.041	510.741	184.938	241.514	446.728	170.677	825.172	3772.221
EMPLOYMENT - TRANSPORTATION & UTILITIES	7.590	-10.378	39.543	19.693	4.906	5.508	27.942	4.428	37.586	136.818
EMPLOYMENT - SERVICES	292.355	674.204	1037.061	716.928	201.944	317.865	493.508	192.169	1116.646	5042.681
EMPLOYMENT - MINING	-0.452	-5.735	-6.709	-5.502	-3.872	-2.357	-11.090	-0.665	-7.501	-43.884
EMPLOYMENT - TOTAL MANUFACTURING	5.107	-74.713	-26.754	74.094	3.112	18.658	25.220	8.073	77.779	110.577
EMPLOYMENT - FOOD & PRODUCTS	-4.311	-21.734	-11.577	-24.926	-4.031	-9.748	-9.566	-4.610	-14.595	-105.099
EMPLOYMENT - TEXTILE MILL PRODUCTS	-7.322	-14.465	-78.960	-2.831	-12.888	-0.335	-1.295	-0.282	-2.963	-121.340
EMPLOYMENT - APPAREL & PRODUCTS	-6.091	-42.985	-40.983	-12.530	-25.483	-6.096	-13.147	-1.393	-22.591	-171.298
EMPLOYMENT - LUMBER & WOOD PRODUCTS	1.221	1.855	4.096	3.160	2.399	1.525	1.132	-5.709	-1.081	8.599
EMPLOYMENT - FURNITURE & FIXTURES	0.386	1.557	5.575	5.857	2.857	1.399	0.622	0.199	0.938	19.391
EMPLOYMENT - PAPER & PRODUCTS	-2.963	-6.125	-2.625	-6.523	-1.328	-1.447	-1.179	-1.356	-0.431	-23.977
EMPLOYMENT - PRINTING & PUBLISHING	6.530	16.390	23.452	17.556	5.058	8.051	10.064	3.545	24.152	114.798
EMPLOYMENT - CHEMICALS & PRODUCTS	0.934	-4.221	-3.706	-4.534	-2.656	-1.192	-0.743	-0.599	-3.264	-19.981
EMPLOYMENT - PETROLEUM & COAL PRODUCTS	-0.042	-2.697	-0.064	-2.628	-0.218	-0.281	-2.434	-0.295	-1.642	-10.301
EMPLOYMENT - RUBBER & PLASTICS	5.997	14.090	9.815	36.199	14.893	4.676	9.915	1.056	12.688	109.328
EMPLOYMENT - LEATHER & PRODUCTS	-7.166	-7.540	-2.494	-7.400	-4.077	-4.595	-3.734	-0.171	-2.551	-39.729
EMPLOYMENT - STONE, CLAY, & GLASS	-0.102	-3.553	2.572	0.918	1.054	0.850	2.300	0.302	1.278	5.618
EMPLOYMENT - PRIMARY METALS	-1.305	-11.607	-2.063	-15.822	-0.876	-0.190	-1.450	-1.010	-1.780	-36.104
EMPLOYMENT - FABRICATED METAL PRODUCTS	-0.637	-1.024	5.779	12.512	4.994	4.996	4.466	0.336	5.734	37.155
EMPLOYMENT - NONELECTRICAL MACHINERY	22.787	20.792	32.457	69.790	16.279	21.294	26.728	7.293	43.239	260.660
EMPLOYMENT - ELECTRICAL MACHINERY	6.606	1.766	12.760	8.298	4.100	-1.194	4.953	2.096	24.197	63.581
EMPLOYMENT - TRANSPORTATION EQUIPMENT	-7.531	-6.657	13.161	2.155	2.962	-0.959	-0.631	5.574	-0.557	7.517
EMPLOYMENT - INSTRUMENTS	6.505	3.736	7.590	4.388	1.288	4.317	2.829	2.065	14.046	45.324
EMPLOYMENT - MISCELLANEOUS	-6.147	-12.189	-4.729	-9.545	-1.779	-2.823	-2.025	-0.849	-5.826	-45.913

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TABLE 6

Gradual Minus Baseline Case, 2000 (Thousands of Persons)

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Northwest	U.S. Total
PERSONAL INCOME (BILLIONS)	164.431	423.513	511.460	436.118	133.447	176.351	284.929	117.823	550.323	2798.394
WAGE & SALARY DISBURSEMENTS	100.239	253.624	315.593	271.292	81.745	107.672	174.726	71.520	338.591	1715.003
FARM PROPRIETORS' INCOME	-0.001	0.112	0.679	0.901	0.711	0.883	0.450	0.262	0.829	4.825
AVERAGE ANNUAL WAGE - MANUFACTURING	12.809	12.128	11.087	12.005	9.854	10.944	11.156	11.932	12.333	11.654
AVERAGE ANNUAL WAGE - NON-MANUFACTURING	11.873	11.732	10.740	10.356	9.886	9.555	10.943	10.874	11.739	10.973
AVERAGE HOURLY EARNINGS - MANUFACTURING	5.131	5.067	4.828	5.378	4.586	4.910	4.794	5.353	5.085	5.051
PRIVATE HOUSING STARTS	13.583	10.560	9.694	-23.572	4.459	-6.517	23.765	-0.476	68.223	99.720
RESIDENT EMPLOYMENT (THOUS.)	503.414	1257.298	2626.784	1658.956	549.613	715.477	1374.938	436.883	2660.899	11784.263
LABOR FORCE (THOUSANDS)	439.317	1250.793	2727.816	1628.209	551.847	783.632	1430.923	469.664	2790.263	12072.466
UNEMPLOYMENT RATE	-1.291	-0.437	-0.214	-0.535	-0.430	0.308	-0.169	0.106	-0.185	-0.310
RESIDENT POPULATION (MILLIONS)	0.468	0.685	3.466	0.980	0.455	0.495	1.971	0.603	3.679	12.833

Note on units of measure:
Personal Income - $ Billions
Wage and Salary Disbursements - $ Thousands
Farm Proprietor's Income - $ Thousands
Average Annual Wage-Mfg. - $ Thousands
Average Annual Wage- Non-Mfg. - $ Thousands
Average Hourly Earnings- Mfg. - $
Private Housing Starts - Thousands
Unemployment Rate - %

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TABLE 7

Nongradual minus Baseline Case, 2000 (Thousands of Persons)

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
EMPLOYMENT - TOTAL NON-AGRICULTURAL	631.800	1318.145	2594.132	1715.030	540.092	759.968	1352.410	512.406	2700.297	12124.278
EMPLOYMENT - CONSTRUCTION	46.846	109.669	271.924	171.130	53.878	66.819	124.351	50.979	216.071	1111.666
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE	45.157	110.187	146.763	92.320	23.598	37.930	70.966	27.257	156.224	710.403
EMPLOYMENT - TRADE	187.785	379.687	811.984	507.252	183.181	237.752	440.973	168.806	815.356	3732.776
EMPLOYMENT - TRANSPORTATION & UTILITIES	7.147	-11.483	38.215	18.335	4.441	3.681	26.544	3.861	34.355	125.097
EMPLOYMENT - SERVICES	289.215	668.331	1034.054	712.844	200.207	313.878	487.602	189.701	1107.155	5002.988
EMPLOYMENT - MINING	-0.459	-5.876	-7.057	-5.743	-4.038	-2.448	-11.430	-0.767	-7.579	-45.397
EMPLOYMENT - TOTAL MANUFACTURING	-0.818	-85.939	-39.766	48.111	-3.442	10.702	20.438	4.373	65.374	19.033
EMPLOYMENT - FOOD & PRODUCTS	-4.530	-22.101	-12.472	-25.670	-4.446	-10.306	-9.942	-4.892	-15.241	-109.599
EMPLOYMENT - TEXTILE MILL PRODUCTS	-7.459	-14.679	-80.131	-2.876	-13.074	-0.341	-1.340	-0.294	-3.037	-123.231
EMPLOYMENT - APPAREL & PRODUCTS	-6.216	-43.593	-41.650	-12.726	-25.928	-6.240	-13.390	-1.449	-22.883	174.074
EMPLOYMENT - LUMBER & WOOD PRODUCTS	1.156	1.723	3.896	2.713	2.363	1.435	0.924	-5.915	-0.918	7.376
EMPLOYMENT - FURNITURE & FIXTURES	0.328	1.398	5.236	5.588	2.718	1.305	0.625	0.160	0.939	18.301
EMPLOYMENT - PAPER & PRODUCTS	-3.166	-6.446	-2.929	-7.009	-1.518	-1.606	-1.290	-1.429	-0.546	-25.939
EMPLOYMENT - PRINTING & PUBLISHING	6.202	15.909	23.249	16.900	4.632	7.812	9.969	3.411	24.258	112.342
EMPLOYMENT - CHEMICALS & PRODUCTS	0.593	-5.233	-4.436	-5.221	-3.338	-1.564	-0.758	-0.721	-3.907	-24.586
EMPLOYMENT - PETROLEUM & COAL PRODUCTS	-0.044	-2.728	-0.066	-2.660	-0.228	-0.289	-2.485	-0.303	-1.674	-10.479
EMPLOYMENT - RUBBER & PLASTICS	5.720	13.061	9.377	33.631	14.127	4.406	9.577	1.005	11.841	102.746
EMPLOYMENT - LEATHER & PRODUCTS	-7.245	-7.625	-2.525	-7.514	-4.116	-4.651	-3.798	-0.174	-2.590	-40.238
EMPLOYMENT - STONE, CLAY, & GLASS	-0.153	-3.756	2.312	0.669	0.929	0.757	2.217	0.267	1.130	4.373
EMPLOYMENT - PRIMARY METALS	-1.531	-12.215	-2.783	-18.091	-1.396	-0.542	-1.705	-1.190	-2.120	-41.571
EMPLOYMENT - FABRICATED METAL PRODUCTS	-1.127	-1.794	4.834	9.250	4.578	4.295	4.363	0.218	5.129	29.748
EMPLOYMENT - NONELECTRICAL MACHINERY	21.078	18.913	30.781	65.447	15.613	18.873	25.452	6.798	40.517	243.405
EMPLOYMENT - ELECTRICAL MACHINERY	5.627	0.234	11.098	5.642	3.378	-1.816	3.826	1.788	21.313	51.090
EMPLOYMENT - TRANSPORTATION EQUIPMENT	-7.350	-7.342	11.526	-4.122	2.451	-1.988	-0.679	4.394	-1.761	-4.871
EMPLOYMENT - INSTRUMENTS	5.921	2.914	7.169	3.927	1.213	4.064	2.653	1.898	12.795	41.124
EMPLOYMENT - MISCELLANEOUS	-6.304	-12.472	-4.905	-9.768	-1.837	-2.930	-2.123	-0.895	-5.998	-47.234

TABLE 8

Nongradual minus Baseline Case, 2000 (Thousands of Persons)

	New England	Mid Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Pacific Northwest	Pacific Southwest	U.S. Total
PERSONAL INCOME (BILLIONS)	163.393	421.715	509.540	433.503	132.692	175.059	283.316	117.215	547.094	2783.526
WAGE & SALARY DISBURSEMENTS	99.368	251.959	313.860	268.890	81.087	106.620	173.398	70.982	335.917	1702.081
FARM PROPRIETORS' INCOME	-0.001	0.112	0.681	0.903	0.712	0.889	0.454	0.263	0.832	4.844
AVERAGE ANNUAL WAGE - MANUFACTURING	12.772	12.093	11.044	11.942	9.806	10.898	11.115	11.891	12.292	11.607
AVERAGE ANNUAL WAGE - NON-MANUFACTURING	11.831	11.693	10.700	10.315	9.845	9.513	10.902	10.833	11.690	10.930
AVERAGE HOURLY EARNINGS - MANUFACTURING	5.110	5.047	4.809	5.351	4.564	4.886	4.775	5.326	5.060	5.028
PRIVATE HOUSING STARTS	13.460	10.004	8.511	-23.433	4.451	-6.544	24.004	-0.306	70.236	100.382
RESIDENT EMPLOYMENT (THOUS.)	489.136	1233.928	2601.082	1625.539	547.165	700.498	1354.764	429.217	2622.555	11603.884
LABOR FORCE (THOUSANDS)	434.518	1251.080	2726.032	1620.855	554.447	776.226	1424.178	467.961	2777.762	12033.060
UNEMPLOYMENT RATE	-1.159	-0.316	-0.116	-0.419	-0.367	0.386	-0.074	0.208	-0.072	-0.205
RESIDENT POPULATION (MILLIONS)	0.463	0.692	3.478	0.982	0.456	0.492	1.964	0.604	3.670	12.833

Note on units of measure:
Personal Income - $ Billions
Wage and Salary Disbursements - $ Thousands
Farm Proprietor's Income - $ Thousands
Average Annual Wage-Mfg. - $ Thousands
Average Annual Wage- Non-Mfg. - $ Thousands
Average Hourly Earnings- Mfg. - $
Private Housing Starts - Thousands
Unemployment Rate - %

Summary Impacts for the United States

TABLE 9

SUMMARY IMPACTS FOR THE UNITED STATES

	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	112576.8	115305.9	117567.5	119213.9	120712.5	122183.2	123588.7	124872.1
Nongradual	112702.7	115621.8	117900.8	119569.1	120887.3	122283.6	123603.2	124829.0
Gradual	112636.0	115426.8	117824.6	119663.4	121108.0	122432.7	123729.8	124967.1
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	18716.3	18847.6	18929.1	18865.8	18876.3	18897.3	18866.6	18795.1
Nongradual	18783.2	18984.6	19063.0	18921.6	18861.5	18855.9	18893.0	18802.3
Gradual	18745.6	18893.6	19053.1	19069.5	19040.8	19005.3	18940.9	18856.2
PERSONAL INCOME ($ BILLIONS)								
Baseline	5379.2	5709.9	6046.5	6398.9	6781.6	7192.6	7637.3	8107.6
Nongradual	5384.8	5725.6	6069.6	6438.5	6816.0	7236.2	7686.0	8166.3
Gradual	5381.8	5715.9	6061.8	6429.3	6821.8	7241.2	7696.1	8180.2
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	3117.3	3308.2	3517.0	3735.6	3972.6	4227.6	4499.6	4787.9
Nongradual	3122.6	3321.0	3535.2	3758.2	3992.2	4256.5	4532.0	4824.2
Gradual	3119.8	3313.4	3529.8	3760.3	4002.4	4260.7	4538.2	4834.8
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	52.5	54.4	56.7	57.4	57.8	58.0	57.8	57.2
Nongradual	52.5	54.3	56.9	57.4	57.8	58.1	58.0	57.3
Gradual	52.5	54.4	56.7	57.3	57.8	58.1	57.9	57.3
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	32.2	33.3	34.6	36.1	37.8	39.5	41.5	43.5
Nongradual	32.5	33.3	34.8	36.2	37.9	39.8	41.8	43.8
Gradual	32.2	33.3	34.8	36.2	37.9	39.8	41.8	43.9
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	26.8	27.8	29.0	30.4	32.0	33.7	35.5	37.4
Nongradual	26.8	27.8	29.1	30.5	32.1	33.9	35.7	37.7
Gradual	26.8	27.8	29.1	30.5	32.1	33.9	35.8	37.8
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	12.3	12.8	13.3	14.0	14.7	15.5	16.3	17.1
Nongradual	12.3	12.8	13.3	14.0	14.8	15.6	16.3	17.3
Gradual	12.3	12.8	13.3	14.0	14.8	15.6	16.2	17.3
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	1221.4	1333.6	1379.3	1368.8	1373.9	1353.7	1341.7	1338.7
Nongradual	1225.2	1334.8	1371.0	1352.5	1350.8	1330.6	1320.5	1326.1
Gradual	1223.4	1333.4	1380.8	1364.5	1358.6	1333.9	1324.2	1323.1
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	120873.6	123222.4	125258.1	126790.1	128346.5	129847.8	131306.2	132640.4
Nongradual	120971.5	123492.2	125533.8	126983.6	128283.0	129826.3	131302.2	132592.4
Gradual	120928.5	123323.4	125485.6	127168.2	128667.8	130043.4	131415.4	132712.7
LABOR FORCE (THOUSANDS)								
Baseline	128636.3	130655.0	132656.8	134509.3	136146.1	137674.6	139217.1	140690.4
Nongradual	128822.0	130913.8	132934.6	134574.3	136121.8	137703.5	139227.5	140685.1
Gradual	128643.7	130679.1	132701.3	134598.9	136244.3	137743.2	139257.5	140716.1
UNEMPLOYMENT RATE (%)								
Baseline	6.0	5.7	5.6	5.7	5.7	5.7	5.7	5.7
Nongradual	6.0	5.5	5.4	5.6	5.7	5.7	5.7	5.9
Gradual	6.0	5.6	5.4	5.5	5.6	5.6	5.6	5.7
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3
Nongradual	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3
Gradual	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3

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TABLE 10

SUMMARY IMPACTS FOR THE UNITED STATES

	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline % change	2.1	2.4	2.0	1.4	1.3	1.2	1.2	1.0
Nongradual % change	2.2	2.6	2.0	1.3	1.2	1.2	1.1	1.0
Gradual % change	2.1	2.5	2.1	1.6	1.2	1.1	1.1	1.0
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline % change	1.1	0.7	0.4	-0.3	0.1	0.1	-0.2	-0.4
Nongradual % change	1.5	1.1	0.4	-0.5	-0.1	0.0	-0.3	-0.5
Gradual % change	1.3	0.8	0.8	0.1	-0.2	-0.2	-0.3	-0.4
PERSONAL INCOME ($ BILLIONS)								
Baseline % change	6.4	6.1	5.9	5.8	6.0	6.1	6.2	6.2
Nongradual % change	6.5	6.3	6.0	5.9	6.1	6.1	6.2	6.2
Gradual % change	6.4	6.2	6.1	6.1	6.1	6.1	6.3	6.3
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline % change	6.3	6.1	6.3	6.2	6.3	6.4	6.4	6.4
Nongradual % change	6.5	6.4	6.4	6.3	6.4	6.5	6.5	6.5
Gradual % change	6.4	6.2	6.5	6.5	6.4	6.5	6.5	6.5
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline % change	7.0	3.6	4.3	1.2	0.8	0.3	-0.3	-1.2
Nongradual % change	7.0	3.6	4.3	1.3	0.9	0.4	-0.3	-1.1
Gradual % change	7.0	3.6	4.2	1.2	0.8	0.4	-0.2	-1.1
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline % change	3.6	3.2	3.9	4.4	4.6	4.7	4.8	4.9
Nongradual % change	3.6	3.3	4.0	4.6	4.8	4.9	4.9	5.0
Gradual % change	3.6	3.2	4.0	4.6	4.8	4.9	5.0	5.1
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline % change	4.3	3.8	4.4	4.9	5.2	5.3	5.4	5.4
Nongradual % change	4.3	3.9	4.5	5.0	5.3	5.4	5.5	5.5
Gradual % change	4.3	3.8	4.5	5.0	5.3	5.4	5.5	5.6
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline % change	4.0	4.1	4.5	4.9	5.1	5.2	5.2	5.3
Nongradual % change	4.0	4.2	4.7	5.1	5.2	5.3	5.3	5.4
Gradual % change	4.0	4.1	4.6	5.1	5.3	5.3	5.4	5.5
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline % change	8.6	9.2	3.4	-0.8	0.4	-1.5	-0.9	-0.2
Nongradual % change	8.9	8.9	2.7	-1.2	0.4	-1.4	-0.9	-0.2
Gradual % change	8.7	9.0	3.6	-1.2	-0.4	-1.8	-0.7	-0.1

TABLE 10

SUMMARY IMPACTS FOR THE UNITED STATES

	1993	1994	1995	1996	1997	1998	1999	2000
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline								
% change	2.1	1.9	1.7	1.2	1.2	1.2	1.1	1.0
Nongradual								
% change	2.2	2.1	1.7	1.2	1.2	1.1	1.1	1.0
Gradual								
% change	2.2	2.0	1.8	1.3	1.2	1.1	1.1	1.0
LABOR FORCE (THOUSANDS)								
Baseline								
% change	1.5	1.6	1.5	1.4	1.2	1.1	1.1	1.1
Nongradual								
% change	1.5	1.6	1.5	1.4	1.2	1.1	1.1	1.0
Gradual								
% change	1.5	1.6	1.5	1.4	1.2	1.1	1.1	1.0
UNEMPLOYMENT RATE (%)								
Baseline								
% change	-8.4	-5.7	-2.0	2.9	-0.2	-0.8	0.0	0.7
Nongradual								
% change	-9.7	-7.2	-1.8	3.8	0.5	-0.1	0.7	1.1
Gradual								
% change	-9.0	-6.2	-3.4	1.5	0.7	0.5	0.8	1.0
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline								
% change	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6
Nongradual								
% change	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6
Gradual								
% change	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6

Summary Impacts for Sectors

TABLE 11

SUMMARY IMPACTS FOR EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	212.1	230.2	245.9	254.7	259.2	261.8	263.0	261.2
Nongradual	212.1	230.1	245.8	254.3	258.4	260.6	261.2	258.9
Gradual	212.1	230.0	245.8	254.9	259.1	261.0	261.4	259.0
Middle Atlantic								
Baseline	618.4	670.8	711.0	724.5	730.8	736.6	741.5	738.3
Nongradual	619.5	673.5	712.9	725.2	729.5	732.8	734.8	729.2
Gradual	618.4	670.1	709.7	724.2	730.3	733.9	735.6	729.4
South Atlantic								
Baseline	1039.4	1115.7	1187.7	1244.5	1274.5	1294.0	1308.6	1323.2
Nongradual	1040.3	1117.9	1188.9	1242.8	1270.4	1287.6	1299.7	1312.2
Gradual	1039.9	1116.7	1189.4	1246.9	1273.9	1289.3	1300.5	1312.8
East North Central								
Baseline	763.2	824.1	873.6	906.3	926.3	932.9	940.3	944.7
Nongradual	764.0	826.7	876.6	905.7	922.2	927.1	932.4	935.1
Gradual	763.4	824.3	874.4	908.4	926.8	929.1	932.9	935.2
East South Central								
Baseline	270.9	291.5	309.0	322.5	328.8	330.8	330.4	329.7
Nongradual	271.2	292.5	309.1	320.6	326.2	327.9	326.6	325.1
Gradual	271.0	291.5	308.9	323.0	328.1	327.8	326.5	325.4
West North Central								
Baseline	323.1	346.1	366.1	377.3	386.8	392.5	395.4	394.6
Nongradual	323.5	347.3	366.5	375.5	384.5	390.1	392.1	390.3
Gradual	323.2	346.2	366.2	378.4	387.0	390.1	392.0	390.9
West South Central								
Baseline	544.2	617.8	663.6	677.0	681.8	682.7	681.4	674.2
Nongradual	544.8	620.4	669.0	683.3	684.7	681.3	677.6	669.2
Gradual	544.9	620.6	668.2	682.6	688.0	687.1	681.0	670.7
Pacific Northwest								
Baseline	222.1	237.6	255.8	265.1	268.6	271.1	273.9	275.7
Nongradual	222.3	238.5	256.0	263.6	266.6	269.3	271.9	273.3
Gradual	222.1	237.7	255.9	265.6	268.3	269.0	271.3	273.1
Pacific Southwest								
Baseline	928.1	994.5	1067.8	1111.9	1131.4	1143.4	1149.9	1153.1
Nongradual	929.5	999.5	1073.7	1115.2	1130.6	1139.3	1143.7	1145.6
Gradual	929.3	998.7	1074.3	1120.5	1138.1	1144.4	1145.7	1146.1
U.S. Total								
Baseline	4921.5	5328.2	5680.5	5883.8	5988.3	6046.0	6084.4	6094.7
Nongradual	4927.3	5346.5	5698.5	5886.1	5973.0	6016.0	6039.9	6039.0
Gradual	4924.4	5335.8	5692.9	5904.5	5999.6	6031.8	6046.9	6042.6

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TABLE 12

SUMMARY IMPACTS FOR EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	439.6	447.0	453.2	459.0	465.8	472.9	479.6	485.9
Nongradual	439.7	447.2	453.3	458.7	465.2	472.0	478.7	484.8
Gradual	439.6	446.7	453.0	458.9	465.5	472.2	478.8	485.0
Middle Atlantic								
Baseline	1298.2	1317.0	1333.3	1350.7	1367.2	1382.6	1397.2	1410.7
Nongradual	1298.3	1317.8	1334.0	1350.6	1366.3	1381.2	1395.3	1408.5
Gradual	1298.0	1316.4	1332.8	1350.8	1367.0	1381.6	1395.6	1408.7
South Atlantic								
Baseline	1106.2	1128.0	1150.5	1172.4	1192.9	1213.3	1233.8	1254.0
Nongradual	1107.4	1130.6	1153.4	1174.8	1194.6	1214.5	1234.4	1254.1
Gradual	1106.6	1128.8	1151.7	1174.5	1194.4	1213.7	1233.3	1253.0
East North Central								
Baseline	1099.0	1120.7	1136.0	1148.5	1160.3	1172.5	1184.0	1194.0
Nongradual	1099.2	1121.6	1136.7	1148.3	1159.3	1171.1	1182.0	1191.5
Gradual	1098.9	1120.1	1135.4	1148.5	1159.9	1171.1	1181.9	1191.6
East South Central								
Baseline	282.7	287.8	290.8	293.4	297.0	300.8	304.4	307.7
Nongradual	282.8	288.1	290.9	293.2	296.3	299.9	303.3	306.4
Gradual	282.7	287.7	290.7	293.4	296.7	300.1	303.3	306.4
West North Central								
Baseline	487.2	494.9	499.8	505.4	511.2	516.7	521.8	526.6
Nongradual	487.5	495.4	500.1	505.2	510.7	515.9	520.8	525.4
Gradual	487.3	494.7	499.7	505.6	511.1	516.1	521.0	525.6
West South Central								
Baseline	627.4	641.0	650.7	659.6	669.1	679.1	688.5	697.5
Nongradual	628.1	642.8	653.1	662.1	671.5	681.2	690.3	699.1
Gradual	628.1	642.8	653.6	663.8	673.5	683.2	692.3	701.1
Pacific Northwest								
Baseline	260.5	265.2	269.7	273.9	277.9	281.8	285.5	288.9
Nongradual	260.6	265.5	269.9	273.8	277.5	281.2	284.6	287.8
Gradual	260.5	265.2	269.7	274.0	277.9	281.4	284.7	288.0
Pacific Southwest								
Baseline	1186.1	1211.7	1232.9	1252.9	1275.5	1299.0	1321.0	1341.8
Nongradual	1187.9	1215.8	1237.2	1256.8	1278.9	1302.1	1323.6	1344.2
Gradual	1187.7	1215.5	1238.5	1260.9	1283.2	1305.5	1327.0	1347.7
U.S. Total								
Baseline	6787.0	6913.3	7017.0	7115.9	7216.9	7318.6	7415.9	7506.8
Nongradual	6791.5	6924.9	7028.6	7123.5	7220.6	7319.1	7413.2	7501.9
Gradual	6789.2	6918.1	7025.2	7130.4	7229.2	7324.9	7417.9	7507.1

TABLE 13

SUMMARY IMPACTS FOR EMPLOYMENT - TRADE (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	1426.3	1466.7	1499.5	1522.3	1544.4	1569.3	1595.6	1620.3
Nongradual	1426.3	1467.7	1499.7	1520.3	1540.7	1564.6	1590.0	1614.1
Gradual	1426.4	1467.0	1500.2	1524.5	1546.0	1568.8	1593.6	1617.8
Middle Atlantic								
Baseline	3671.6	3761.0	3835.3	3888.8	3931.5	3975.7	4019.9	4062.0
Nongradual	3673.3	3767.0	3840.8	3890.2	3929.0	3970.7	4012.5	4053.0
Gradual	3672.0	3761.5	3836.8	3894.2	3934.9	3974.0	4014.3	4055.0
South Atlantic								
Baseline	4792.7	4951.0	5089.4	5196.3	5294.3	5398.6	5507.5	5615.4
Nongradual	4796.7	4963.0	5102.8	5205.0	5297.8	5398.2	5503.4	5608.7
Gradual	4794.9	4956.7	5098.9	5213.3	5309.4	5405.6	5507.8	5613.0
East North Central								
Baseline	4596.1	4724.4	4818.9	4881.6	4936.2	4995.7	5057.3	5117.0
Nongradual	4598.3	4732.9	4827.5	4884.8	4934.4	4990.5	5048.4	5105.6
Gradual	4596.0	4723.3	4819.7	4888.0	4940.0	4992.8	5049.1	5106.8
East South Central								
Baseline	1460.9	1505.6	1538.0	1559.3	1580.3	1604.2	1628.1	1650.9
Nongradual	1462.1	1509.3	1540.9	1559.2	1577.9	1600.5	1623.3	1645.3
Gradual	1461.3	1506.3	1539.4	1562.8	1582.0	1602.3	1624.0	1646.3
West North Central								
Baseline	2028.4	2084.6	2128.5	2155.0	2181.0	2211.7	2244.1	2274.1
Nongradual	2030.2	2089.9	2132.3	2155.1	2178.7	2208.2	2239.0	2268.0
Gradual	2029.0	2085.8	2130.8	2160.7	2184.3	2210.7	2240.8	2270.6
West South Central								
Baseline	2680.0	2780.6	2861.2	2916.3	2962.9	3013.4	3065.8	3115.9
Nongradual	2684.6	2792.0	2875.8	2931.5	2977.1	3025.8	3076.4	3125.5
Gradual	2683.0	2788.6	2873.5	2935.3	2982.9	3030.8	3080.7	3129.7
Pacific Northwest								
Baseline	1142.5	1182.3	1213.9	1235.7	1254.5	1276.1	1296.7	1316.6
Nongradual	1143.8	1186.2	1216.9	1235.9	1252.9	1273.7	1293.3	1312.6
Gradual	1143.0	1183.3	1215.7	1239.7	1256.7	1274.9	1293.8	1313.7
Pacific Southwest								
Baseline	4464.3	4617.3	4750.1	4857.9	4959.0	5062.5	5168.8	5271.6
Nongradual	4471.9	4636.7	4774.5	4882.0	4980.7	5081.9	5185.8	5287.2
Gradual	4469.1	4630.4	4770.5	4889.5	4992.2	5090.6	5192.5	5294.2
U.S. Total								
Baseline	26262.9	27073.5	27734.8	28213.1	28644.1	29107.2	29583.7	30043.7
Nongradual	26287.2	27144.6	27811.2	28264.1	28669.3	29114.0	29572.2	30019.9
Gradual	26274.9	27102.9	27785.5	28308.0	28728.6	29150.4	29596.6	30047.1

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TABLE 14

SUMMARY IMPACTS FOR EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	258.4	261.8	263.5	264.8	265.2	265.6	266.0	266.1
Nongradual	258.6	262.4	263.9	265.1	265.2	265.5	265.8	265.7
Gradual	258.5	262.1	263.8	265.5	265.7	265.8	266.1	266.0
Middle Atlantic								
Baseline	925.8	927.9	929.3	928.0	924.7	921.8	918.8	915.5
Nongradual	926.7	930.1	931.9	929.9	926.1	922.5	918.9	915.2
Gradual	926.1	928.5	930.7	930.7	927.3	923.3	919.5	915.8
South Atlantic								
Baseline	1021.8	1031.1	1039.7	1045.5	1049.0	1053.4	1058.0	1062.1
Nongradual	1022.9	1034.3	1043.1	1047.9	1050.4	1053.9	1057.6	1061.2
Gradual	1022.3	1032.2	1041.8	1049.4	1052.4	1055.1	1058.4	1061.8
East North Central								
Baseline	943.4	953.5	961.6	967.3	967.5	967.0	965.9	963.6
Nongradual	944.5	956.7	965.2	969.7	968.9	967.6	965.7	962.8
Gradual	943.6	953.6	962.8	970.4	970.4	968.4	966.0	963.3
East South Central								
Baseline	335.0	338.2	340.0	340.1	340.4	340.8	341.1	341.0
Nongradual	335.4	339.3	341.0	340.6	340.3	340.4	340.2	339.9
Gradual	335.2	338.6	340.6	341.2	341.2	340.9	340.5	340.1
West North Central								
Baseline	464.6	467.0	468.2	468.4	468.6	469.5	470.3	470.3
Nongradual	465.3	468.1	468.9	468.5	468.3	468.9	469.3	468.9
Gradual	464.9	467.7	469.5	470.6	470.2	470.3	470.7	470.4
West South Central								
Baseline	688.0	696.7	702.9	705.7	707.4	709.5	711.6	712.8
Nongradual	688.6	699.4	707.2	710.1	711.0	712.6	714.2	715.1
Gradual	688.6	698.5	705.7	710.3	713.1	714.6	715.8	716.6
Pacific Northwest								
Baseline	259.3	261.3	262.9	263.4	263.4	263.7	264.1	264.2
Nongradual	259.7	262.2	263.7	263.7	263.5	263.6	263.6	263.6
Gradual	259.5	261.7	263.6	264.6	264.2	263.9	264.0	263.9
Pacific Southwest								
Baseline	966.7	977.2	984.3	987.3	989.6	993.8	997.6	1000.5
Nongradual	967.9	980.7	989.1	991.7	993.3	996.8	1000.0	1002.3
Gradual	967.6	979.6	988.5	994.2	997.3	1000.3	1002.9	1005.2
U.S. Total								
Baseline	5863.1	5914.7	5952.6	5970.5	5975.7	5984.9	5993.3	5995.9
Nongradual	5869.6	5933.3	5974.1	5987.3	5987.1	5991.7	5995.3	5994.7
Gradual	5866.4	5922.4	5967.0	5997.0	6001.8	6002.5	6003.8	6003.2

TABLE 15

SUMMARY IMPACTS FOR EMPLOYMENT - SERVICES (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	1849.6	1900.8	1940.3	1980.3	2019.8	2061.6	2102.5	2140.6
Nongradual	1850.0	1902.0	1941.4	1980.5	2019.3	2060.9	2101.5	2139.2
Gradual	1849.8	1900.9	1940.9	1982.2	2021.8	2063.2	2103.9	2142.2
Middle Atlantic								
Baseline	5026.8	5149.4	5263.3	5358.0	5444.4	5529.6	5614.4	5695.7
Nongradual	5027.9	5153.5	5268.3	5362.1	5447.1	5531.6	5615.5	5696.3
Gradual	5027.4	5149.9	5265.8	5364.5	5451.9	5536.5	5620.1	5701.6
South Atlantic								
Baseline	5400.7	5583.7	5737.0	5876.7	6014.0	6153.3	6293.4	6430.3
Nongradual	5405.4	5595.0	5750.7	5890.6	6027.0	6165.0	6303.7	6439.4
Gradual	5402.9	5589.2	5745.9	5891.0	6028.3	6165.2	6303.6	6440.0
East North Central								
Baseline	4916.3	5068.4	5182.8	5281.3	5371.8	5461.8	5548.9	5632.5
Nongradual	4917.7	5073.7	5188.5	5284.8	5373.8	5463.0	5548.3	5630.5
Gradual	4916.4	5067.3	5183.1	5286.2	5376.0	5463.8	5549.8	5633.3
East South Central								
Baseline	1406.5	1444.6	1472.7	1498.9	1527.1	1555.7	1583.5	1610.3
Nongradual	1406.9	1446.0	1473.9	1498.7	1525.9	1553.8	1580.9	1607.1
Gradual	1406.7	1444.8	1473.3	1500.6	1528.2	1555.3	1582.2	1608.7
West North Central								
Baseline	2169.1	2231.7	2275.0	2313.5	2357.6	2402.7	2445.0	2485.6
Nongradual	2170.7	2235.8	2278.2	2314.9	2358.0	2402.7	2444.3	2484.6
Gradual	2169.9	2233.0	2277.5	2318.8	2361.6	2404.8	2446.7	2487.8
West South Central								
Baseline	2789.7	2878.2	2949.9	3013.1	3077.0	3142.3	3207.0	3268.8
Nongradual	2792.1	2884.7	2959.4	3024.6	3088.9	3153.6	3217.9	3279.7
Gradual	2791.4	2883.5	2958.7	3026.5	3092.7	3158.7	3223.1	3284.9
Pacific Northwest								
Baseline	1161.4	1196.9	1225.5	1252.8	1279.5	1305.1	1329.9	1354.8
Nongradual	1162.8	1200.1	1227.4	1252.7	1278.6	1303.8	1327.9	1352.5
Gradual	1162.1	1197.9	1227.2	1256.3	1281.3	1304.8	1329.1	1354.3
Pacific Southwest								
Baseline	5525.9	5716.3	5874.2	6027.2	6180.8	6331.6	6479.2	6622.6
Nongradual	5532.4	5732.0	5892.0	6045.1	6198.7	6349.4	6496.3	6639.5
Gradual	5529.5	5725.3	5888.4	6050.6	6205.0	6353.8	6501.1	6646.2
U.S. Total								
Baseline	30246.2	31169.9	31920.8	32601.9	33272.1	33943.7	34603.7	35241.1
Nongradual	30265.9	31222.7	31979.8	32654.0	33317.4	33983.9	34636.2	35268.9
Gradual	30256.2	31191.9	31960.7	32676.7	33346.8	34006.1	34659.6	35298.8

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TABLE 16

SUMMARY IMPACTS FOR EMPLOYMENT - MINING (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	3.3	3.2	3.1	3.0	2.9	2.9	2.9	2.8
Nongradual	3.3	3.2	3.1	3.0	3.0	2.9	2.9	2.8
Gradual	3.3	3.2	3.1	3.0	3.0	2.9	2.9	2.9
Middle Atlantic								
Baseline	31.0	30.2	29.2	28.3	27.4	26.4	25.8	25.3
Nongradual	31.1	30.4	29.3	28.4	27.5	26.3	25.7	25.2
Gradual	31.1	30.3	29.3	28.5	27.5	26.4	25.8	25.3
South Atlantic								
Baseline	70.3	69.7	68.9	68.0	66.6	65.1	64.2	63.7
Nongradual	70.5	70.0	69.2	68.1	66.7	65.1	64.1	63.5
Gradual	70.5	69.9	69.1	68.3	66.9	65.2	64.3	63.8
East North Central								
Baseline	51.6	51.6	50.2	49.0	48.3	47.2	46.6	46.1
Nongradual	51.7	51.8	50.4	49.0	48.3	47.1	46.4	45.9
Gradual	51.6	51.7	50.4	49.2	48.5	47.3	46.7	46.1
East South Central								
Baseline	55.0	55.1	54.5	54.0	53.2	52.3	51.7	51.2
Nongradual	55.1	55.3	54.7	54.0	53.2	52.3	51.6	51.1
Gradual	55.1	55.2	54.7	54.2	53.4	52.3	51.7	51.2
West North Central								
Baseline	32.7	32.7	32.2	31.4	31.1	30.8	30.6	30.4
Nongradual	32.8	32.8	32.3	31.5	31.1	30.8	30.6	30.3
Gradual	32.8	32.8	32.3	31.6	31.2	30.8	30.6	30.4
West South Central								
Baseline	273.0	274.6	275.2	271.2	267.9	266.5	264.5	261.8
Nongradual	273.6	275.5	276.1	272.0	268.6	267.0	264.8	262.2
Gradual	273.5	275.2	276.1	272.5	269.0	267.3	265.1	262.4
Pacific Northwest								
Baseline	43.2	43.8	44.2	43.8	43.5	43.1	42.9	42.6
Nongradual	43.3	44.0	44.4	43.8	43.5	43.1	42.8	42.6
Gradual	43.3	44.0	44.4	44.0	43.7	43.2	42.9	42.6
Pacific Southwest								
Baseline	106.0	106.5	105.8	103.4	102.2	100.7	99.6	98.5
Nongradual	106.2	106.9	106.2	103.7	102.4	101.0	99.8	98.6
Gradual	106.2	106.8	106.1	103.9	102.6	101.0	99.9	98.7
U.S. Total								
Baseline	666.1	667.4	663.4	652.0	643.3	635.0	628.7	622.3
Nongradual	667.6	670.0	665.6	653.4	644.2	635.5	628.7	622.2
Gradual	667.3	669.1	665.6	655.3	645.8	636.5	629.9	623.4

TABLE 17

SUMMARY IMPACTS FOR EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	1123.3	1126.1	1127.3	1125.4	1127.9	1131.0	1130.7	1126.7
Nongradual	1127.4	1134.1	1134.3	1131.0	1132.8	1134.3	1132.0	1126.6
Gradual	1125.3	1129.6	1135.3	1138.5	1138.1	1137.7	1135.5	1130.4
Middle Atlantic								
Baseline	2555.9	2554.5	2551.2	2531.5	2521.3	2512.0	2496.6	2478.5
Nongradual	2564.3	2571.4	2566.8	2543.9	2531.4	2518.7	2499.1	2478.4
Gradual	2559.5	2560.0	2566.1	2555.9	2540.4	2524.3	2504.9	2484.8
South Atlantic								
Baseline	3071.8	3089.7	3098.7	3081.1	3075.8	3072.1	3061.3	3045.2
Nongradual	3082.2	3109.7	3115.7	3093.3	3084.9	3077.0	3061.3	3042.4
Gradual	3076.7	3097.2	3116.8	3109.3	3095.4	3083.1	3068.0	3049.9
East North Central								
Baseline	4202.6	4247.2	4277.7	4268.8	4273.3	4284.0	4282.2	4267.6
Nongradual	4218.5	4280.6	4308.8	4291.4	4290.5	4294.8	4285.2	4266.6
Gradual	4208.8	4255.5	4306.5	4317.9	4313.3	4310.0	4299.9	4282.9
East South Central								
Baseline	1457.8	1468.1	1474.1	1469.2	1470.5	1471.1	1468.1	1463.7
Nongradual	1463.4	1477.6	1479.9	1472.4	1472.7	1471.3	1465.8	1460.0
Gradual	1460.4	1471.7	1482.5	1482.0	1477.2	1473.4	1468.8	1463.5
West North Central								
Baseline	1402.6	1414.6	1421.5	1417.8	1419.9	1423.6	1423.4	1419.8
Nongradual	1408.0	1424.6	1429.2	1423.4	1424.5	1426.3	1423.8	1418.7
Gradual	1405.1	1418.6	1431.1	1433.1	1430.6	1430.2	1428.2	1423.8
West South Central								
Baseline	1588.1	1604.2	1614.0	1609.2	1611.9	1614.9	1611.8	1605.0
Nongradual	1592.1	1615.8	1631.9	1626.2	1625.9	1626.7	1621.1	1612.5
Gradual	1590.0	1607.7	1624.1	1627.3	1632.3	1631.1	1623.4	1615.2
Pacific Northwest								
Baseline	700.0	708.2	712.2	708.1	708.6	709.9	709.7	708.3
Nongradual	702.9	713.4	715.9	710.4	710.4	710.7	709.3	707.2
Gradual	701.4	710.4	717.0	715.7	713.3	712.2	711.2	709.4
Pacific Southwest								
Baseline	2614.2	2635.0	2652.4	2654.7	2667.1	2678.7	2682.8	2680.3
Nongradual	2624.4	2657.5	2679.6	2679.6	2688.4	2696.0	2695.4	2689.8
Gradual	2618.6	2642.9	2673.6	2689.8	2700.2	2703.4	2701.1	2696.3
U.S. Total								
Baseline	18716.3	18847.6	18929.1	18865.8	18876.3	18897.3	18866.6	18795.1
Nongradual	18783.2	18984.6	19062.0	18971.6	18961.5	18955.9	18893.0	18802.3
Gradual	18745.6	18893.6	19053.1	19069.5	19040.8	19005.3	18940.9	18856.2

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TABLE 18

SUMMARY IMPACTS FOR EMPLOYMENT - FOOD & PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	43.9	43.3	42.6	41.9	41.3	40.8	40.2	39.6
Nongradual	43.9	43.4	42.5	41.8	41.2	40.6	40.0	39.4
Gradual	43.9	43.4	42.7	42.0	41.3	40.8	40.2	39.6
Middle Atlantic								
Baseline	193.7	191.4	188.4	185.1	181.8	178.6	175.4	172.2
Nongradual	193.8	191.8	188.6	185.1	181.8	178.4	175.0	171.7
Gradual	193.7	191.4	188.5	185.3	181.8	178.5	175.2	172.0
South Atlantic								
Baseline	251.2	251.4	250.4	248.5	246.4	244.3	242.1	239.8
Nongradual	251.5	251.8	250.6	248.4	246.2	243.9	241.5	239.0
Gradual	251.4	251.7	250.9	249.2	246.8	244.5	242.2	239.8
East North Central								
Baseline	296.9	293.7	289.7	285.5	282.1	278.8	275.4	272.1
Nongradual	297.2	294.3	290.2	285.7	282.2	278.7	275.1	271.5
Gradual	297.0	293.9	290.1	286.1	282.5	279.0	275.5	272.1
East South Central								
Baseline	123.8	123.9	123.5	122.9	122.3	121.5	120.7	120.0
Nongradual	123.9	124.0	123.4	122.7	122.0	121.2	120.3	119.5
Gradual	123.8	124.0	123.6	123.1	122.2	121.4	120.6	119.8
West North Central								
Baseline	219.5	219.7	218.9	217.2	215.4	213.6	211.7	209.8
Nongradual	219.7	220.2	219.3	217.5	215.5	213.6	211.5	209.4
Gradual	219.6	219.9	219.2	217.8	215.8	213.9	211.9	209.9
West South Central								
Baseline	190.4	190.0	189.2	187.8	186.2	184.5	182.5	180.4
Nongradual	190.6	190.6	190.3	188.9	187.0	185.0	182.9	180.7
Gradual	190.5	190.2	189.7	188.6	187.2	185.3	183.1	181.0
Pacific Northwest								
Baseline	93.6	93.6	93.0	92.2	91.4	90.6	89.8	89.1
Nongradual	93.7	93.8	93.1	92.2	91.4	90.5	89.7	88.8
Gradual	93.7	93.7	93.1	92.4	91.5	90.7	89.9	89.0
Pacific Southwest								
Baseline	252.6	251.9	250.1	247.9	245.9	243.3	240.7	237.9
Nongradual	252.9	252.5	250.9	248.5	246.2	243.5	240.6	237.6
Gradual	252.7	252.1	250.6	248.7	246.6	243.9	241.0	238.1
U.S. Total								
Baseline	1665.7	1659.0	1645.9	1629.0	1612.7	1596.0	1578.7	1560.7
Nongradual	1667.2	1662.4	1648.9	1630.9	1613.4	1595.4	1576.6	1557.6
Gradual	1666.4	1660.3	1648.5	1633.1	1615.9	1597.9	1579.7	1561.3

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TABLE 19

SUMMARY IMPACTS FOR EMPLOYMENT - TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	34.9	33.9	32.5	31.3	30.3	29.5	28.6	27.7
Nongradual	35.0	34.0	32.6	31.3	30.3	29.4	28.5	27.5
Gradual	34.9	33.9	32.7	31.4	30.4	29.5	28.6	27.6
Middle Atlantic								
Baseline	56.1	54.3	52.1	49.5	47.4	45.5	43.5	41.7
Nongradual	56.3	54.6	52.3	49.6	47.4	45.4	43.4	41.6
Gradual	56.2	54.5	52.4	49.8	47.6	45.5	43.6	41.7
South Atlantic								
Baseline	445.1	434.5	424.1	410.0	398.9	388.5	377.9	367.5
Nongradual	446.4	436.7	425.7	410.8	399.1	388.0	376.9	366.3
Gradual	445.9	435.7	426.1	412.5	400.1	388.6	377.6	367.0
East North Central								
Baseline	14.0	13.6	13.2	12.7	12.3	12.0	11.6	11.2
Nongradual	14.1	13.7	13.2	12.7	12.3	12.0	11.6	11.2
Gradual	14.0	13.7	13.3	12.8	12.4	12.0	11.6	11.2
East South Central								
Baseline	76.5	74.6	72.7	70.5	68.8	67.2	65.4	63.9
Nongradual	76.7	74.9	72.8	70.6	68.8	67.1	65.2	63.7
Gradual	76.7	74.7	73.0	70.9	69.0	67.1	65.4	63.8
West North Central								
Baseline	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.3
Nongradual	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3
Gradual	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3
West South Central								
Baseline	7.0	6.8	6.7	6.5	6.3	6.1	5.9	5.7
Nongradual	7.0	6.9	6.7	6.5	6.3	6.1	5.8	5.7
Gradual	7.0	6.9	6.7	6.5	6.3	6.1	5.9	5.7
Pacific Northwest								
Baseline	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3
Nongradual	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3
Gradual	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3
Pacific Southwest								
Baseline	16.6	16.3	15.8	15.3	14.8	14.5	14.1	13.7
Nongradual	16.7	16.3	15.9	15.3	14.8	14.4	14.0	13.6
Gradual	16.7	16.3	15.9	15.3	14.9	14.5	14.1	13.7
U.S. Total								
Baseline	653.4	637.1	620.2	598.7	581.8	565.8	549.7	534.0
Nongradual	655.3	640.4	622.3	599.6	582.0	565.1	548.2	532.1
Gradual	654.6	638.8	623.2	602.4	583.4	566.1	549.4	533.3

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TABLE 20

SUMMARY IMPACTS FOR EMPLOYMENT - APPAREL & PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	29.3	28.3	27.3	26.3	25.5	24.7	24.0	23.4
Nongradual	29.4	28.3	27.2	26.2	25.4	24.6	23.8	23.2
Gradual	29.4	28.3	27.4	26.4	25.4	24.7	24.0	23.3
Middle Atlantic								
Baseline	190.2	183.4	177.4	170.3	164.2	158.5	153.0	147.6
Nongradual	190.6	184.1	177.8	170.6	164.3	158.3	152.6	147.0
Gradual	190.4	183.6	178.0	171.2	164.6	158.7	153.1	147.4
South Atlantic								
Baseline	248.6	242.5	236.9	230.2	224.4	219.0	213.7	208.6
Nongradual	249.2	243.4	237.3	230.4	224.5	218.6	212.9	207.5
Gradual	248.9	242.9	237.6	231.2	224.9	219.0	213.4	207.9
East North Central								
Baseline	64.6	62.4	60.5	58.5	56.8	55.2	53.7	52.2
Nongradual	64.7	62.6	60.5	58.5	56.8	55.1	53.5	52.0
Gradual	64.6	62.5	60.7	58.8	56.9	55.2	53.7	52.1
East South Central								
Baseline	179.0	174.8	171.3	167.4	164.1	160.6	157.4	154.2
Nongradual	179.3	175.4	171.5	167.4	164.0	160.3	156.8	153.4
Gradual	179.2	175.1	171.9	168.1	164.2	160.5	157.1	153.7
West North Central								
Baseline	35.6	34.6	33.8	32.8	32.0	31.2	30.4	29.6
Nongradual	35.7	34.7	33.7	32.7	31.9	31.0	30.2	29.4
Gradual	35.6	34.6	33.8	32.9	31.9	31.1	30.3	29.5
West South Central								
Baseline	86.4	84.5	82.8	80.7	78.8	76.9	75.1	73.3
Nongradual	86.6	85.0	83.5	81.1	79.0	77.0	75.1	73.2
Gradual	86.5	84.6	83.1	81.2	79.2	77.2	75.2	73.3
Pacific Northwest								
Baseline	9.2	9.0	8.9	8.6	8.4	8.2	8.0	7.8
Nongradual	9.2	9.1	8.8	8.6	8.4	8.2	8.0	7.8
Gradual	9.2	9.1	8.9	8.7	8.4	8.2	8.0	7.8
Pacific Southwest								
Baseline	151.7	147.8	144.3	140.5	137.6	134.8	132.1	129.5
Nongradual	152.0	148.5	145.3	141.2	138.0	134.9	132.0	129.2
Gradual	151.9	148.0	144.8	141.3	138.2	135.1	132.2	129.3
U.S. Total								
Baseline	994.6	967.3	943.2	915.3	891.7	869.1	847.5	826.3
Nongradual	996.7	971.0	945.7	916.7	892.2	868.0	844.7	822.6
Gradual	995.6	968.7	946.3	919.7	893.8	869.7	847.0	824.3

TABLE 21

SUMMARY IMPACTS FOR EMPLOYMENT - LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	26.9	28.0	28.7	28.6	28.5	28.6	28.6	28.3
Nongradual	26.9	28.2	28.6	28.4	28.4	28.4	28.3	28.1
Gradual	26.9	28.1	28.7	28.6	28.4	28.4	28.4	28.1
Middle Atlantic								
Baseline	49.7	52.1	53.5	53.2	53.0	52.9	52.5	52.0
Nongradual	49.9	52.3	53.6	53.1	52.8	52.6	52.2	51.6
Gradual	49.8	52.2	53.7	53.4	53.0	52.6	52.2	51.7
South Atlantic								
Baseline	143.9	150.1	153.7	152.6	152.1	151.7	150.8	149.4
Nongradual	144.2	150.8	153.9	152.2	151.5	150.8	149.7	148.1
Gradual	144.2	150.6	154.1	153.1	152.0	150.9	149.7	148.3
East North Central								
Baseline	106.2	110.7	113.3	112.5	112.3	112.0	111.2	109.9
Nongradual	106.5	111.2	113.5	112.4	112.0	111.5	110.5	109.2
Gradual	106.4	111.0	113.8	113.2	112.5	111.8	110.9	109.6
East South Central								
Baseline	92.9	96.3	98.3	98.0	98.0	97.7	97.0	96.3
Nongradual	93.1	96.7	98.3	97.8	97.6	97.1	96.3	95.5
Gradual	93.1	96.6	98.5	98.3	97.8	97.1	96.2	95.5
West North Central								
Baseline	42.0	43.9	45.1	44.9	44.7	44.6	44.4	43.9
Nongradual	42.1	44.1	45.1	44.7	44.5	44.4	44.0	43.5
Gradual	42.1	44.0	45.2	45.0	44.6	44.4	44.1	43.6
West South Central								
Baseline	70.9	74.0	75.7	75.1	74.7	74.3	73.7	72.7
Nongradual	71.1	74.4	76.1	75.1	74.4	73.9	73.1	72.0
Gradual	71.1	74.2	76.0	75.5	74.9	74.1	73.2	72.2
Pacific Northwest								
Baseline	124.8	127.7	127.9	124.8	123.9	122.9	121.6	120.2
Nongradual	125.1	128.3	128.0	124.5	123.4	122.2	120.8	119.2
Gradual	125.1	128.1	128.3	125.3	123.8	122.3	120.9	119.3
Pacific Southwest								
Baseline	76.1	78.3	79.4	78.4	77.7	77.3	76.8	76.0
Nongradual	76.3	78.9	80.4	78.8	77.5	77.0	76.3	75.4
Gradual	76.3	78.6	80.0	79.0	78.2	77.2	76.1	75.2
U.S. Total								
Baseline	733.3	761.2	775.5	768.0	764.9	762.0	756.5	748.6
Nongradual	735.3	765.0	777.5	767.1	762.1	757.9	751.1	742.6
Gradual	734.8	763.6	778.4	771.4	765.3	758.8	751.7	743.4

TABLE 22

SUMMARY IMPACTS FOR EMPLOYMENT - FURNITURE & FIXTURES (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	12.9	13.1	13.2	13.2	13.2	13.3	13.3	13.3
Nongradual	12.9	13.1	13.2	13.1	13.1	13.2	13.2	13.2
Gradual	12.9	13.1	13.2	13.2	13.2	13.2	13.3	13.3
Middle Atlantic								
Baseline	43.7	45.2	46.0	45.9	45.8	45.7	45.6	45.4
Nongradual	43.8	45.4	46.1	45.9	45.8	45.6	45.4	45.2
Gradual	43.8	45.2	46.2	46.2	46.0	45.7	45.5	45.3
South Atlantic								
Baseline	131.4	135.4	137.7	137.6	137.5	137.6	137.6	137.4
Nongradual	131.7	136.1	138.3	137.9	137.5	137.4	137.2	137.0
Gradual	131.6	135.7	138.3	138.5	138.2	137.8	137.4	137.1
East North Central								
Baseline	106.9	110.3	112.3	112.3	112.5	112.8	113.0	113.0
Nongradual	107.0	110.7	112.7	112.5	112.5	112.7	112.7	112.6
Gradual	107.0	110.5	112.7	113.0	113.0	113.0	112.9	112.8
East South Central								
Baseline	58.3	59.8	60.8	60.9	61.0	61.1	61.2	61.4
Nongradual	58.4	60.1	61.0	60.9	60.9	61.0	61.0	61.2
Gradual	58.4	59.9	61.0	61.2	61.2	61.1	61.1	61.2
West North Central								
Baseline	25.4	26.2	26.8	26.8	26.8	26.9	26.9	26.9
Nongradual	25.4	26.3	26.8	26.7	26.7	26.8	26.8	26.8
Gradual	25.4	26.3	26.8	26.9	26.9	26.8	26.8	26.8
West South Central								
Baseline	26.4	27.2	27.6	27.5	27.5	27.3	27.2	27.0
Nongradual	26.5	27.4	27.9	27.9	27.7	27.5	27.3	27.1
Gradual	26.4	27.2	27.7	27.8	27.8	27.6	27.3	27.0
Pacific Northwest								
Baseline	7.3	7.6	7.7	7.7	7.6	7.6	7.6	7.5
Nongradual	7.3	7.6	7.7	7.6	7.6	7.5	7.5	7.5
Gradual	7.3	7.6	7.7	7.7	7.6	7.6	7.5	7.5
Pacific Southwest								
Baseline	55.7	57.1	57.9	57.7	57.5	57.3	57.1	56.7
Nongradual	56.0	57.6	58.4	58.2	57.9	57.6	57.3	56.9
Gradual	55.8	57.3	58.1	58.1	57.9	57.5	57.1	56.7
U.S. Total								
Baseline	468.0	481.9	489.8	489.5	489.4	489.6	489.4	488.7
Nongradual	469.1	484.3	492.1	490.7	489.7	489.3	488.5	487.4
Gradual	468.5	482.7	491.9	492.6	491.7	490.3	488.9	487.9

TABLE 23

SUMMARY IMPACTS FOR EMPLOYMENT - PAPER & PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	57.5	57.3	56.9	56.3	55.9	55.5	55.1	54.6
Nongradual	57.7	57.6	57.0	56.4	55.9	55.5	55.0	54.5
Gradual	57.6	57.4	57.1	56.6	56.0	55.6	55.1	54.6
Middle Atlantic								
Baseline	102.8	102.4	101.4	100.2	99.3	98.6	97.7	96.8
Nongradual	103.1	102.8	101.7	100.3	99.4	98.6	97.7	96.7
Gradual	103.0	102.6	101.8	100.7	99.5	98.7	97.8	96.9
South Atlantic								
Baseline	116.4	116.9	116.8	115.9	115.5	115.1	114.5	113.9
Nongradual	116.7	117.4	117.2	116.1	115.6	115.2	114.4	113.8
Gradual	116.6	117.1	117.3	116.6	115.9	115.3	114.6	114.0
East North Central								
Baseline	162.0	161.7	160.6	159.1	158.3	157.6	156.6	155.5
Nongradual	162.4	162.4	161.1	159.3	158.4	157.6	156.5	155.4
Gradual	162.2	162.0	161.3	160.0	158.7	157.7	156.7	155.7
East South Central								
Baseline	64.5	64.7	64.5	64.0	63.8	63.7	63.5	63.2
Nongradual	64.7	64.9	64.6	64.0	63.9	63.7	63.4	63.2
Gradual	64.6	64.8	64.7	64.3	64.0	63.8	63.5	63.3
West North Central								
Baseline	55.3	55.4	55.2	54.7	54.5	54.4	54.1	53.9
Nongradual	55.4	55.6	55.3	54.7	54.5	54.4	54.1	53.8
Gradual	55.4	55.5	55.4	55.0	54.6	54.4	54.2	53.9
West South Central								
Baseline	52.6	52.7	52.6	52.1	52.0	51.9	51.7	51.4
Nongradual	52.7	53.0	52.8	52.3	52.1	52.0	51.7	51.4
Gradual	52.7	52.8	52.8	52.5	52.2	52.0	51.7	51.5
Pacific Northwest								
Baseline	31.6	31.6	31.5	31.1	30.9	30.8	30.5	30.3
Nongradual	31.7	31.8	31.6	31.2	31.0	30.8	30.5	30.3
Gradual	31.7	31.7	31.6	31.3	31.0	30.8	30.5	30.3
Pacific Southwest								
Baseline	44.5	44.6	44.5	44.3	44.3	44.3	44.2	44.1
Nongradual	44.6	44.8	44.7	44.4	44.4	44.3	44.2	44.0
Gradual	44.5	44.7	44.7	44.5	44.5	44.4	44.2	44.1
U.S. Total								
Baseline	687.3	687.3	684.0	677.8	674.7	672.0	668.0	663.7
Nongradual	689.0	690.3	685.9	678.7	675.2	672.0	667.5	663.0
Gradual	688.2	688.7	686.7	681.5	676.4	672.6	668.4	664.2

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TABLE 24

SUMMARY IMPACTS FOR EMPLOYMENT - PRINTING & PUBLISHING (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	98.0	99.5	100.8	101.9	102.6	103.3	104.0	104.7
Nongradual	98.1	99.7	100.9	101.7	102.4	103.1	103.7	104.3
Gradual	98.1	99.6	101.0	102.1	102.8	103.3	104.0	104.6
Middle Atlantic								
Baseline	292.6	296.7	300.0	302.3	304.0	305.7	307.4	308.9
Nongradual	292.9	297.4	300.7	302.9	304.3	305.9	307.4	308.8
Gradual	292.7	297.0	300.5	303.3	304.9	306.3	307.8	309.1
South Atlantic								
Baseline	228.1	232.8	236.9	240.4	243.3	246.2	248.9	251.4
Nongradual	228.3	233.4	237.7	241.1	243.8	246.6	249.1	251.5
Gradual	228.2	233.0	237.3	241.2	244.1	246.8	249.2	251.6
East North Central								
Baseline	322.0	326.0	329.5	332.2	334.0	335.9	337.7	339.3
Nongradual	322.3	326.8	330.4	332.8	334.5	336.2	337.7	339.2
Gradual	322.1	326.3	330.1	333.3	335.1	336.7	338.3	339.7
East South Central								
Baseline	79.8	81.0	82.1	82.9	83.6	84.1	84.6	85.0
Nongradual	79.8	81.1	81.9	82.6	83.2	83.7	84.1	84.5
Gradual	79.8	81.1	82.2	83.1	83.6	84.1	84.5	84.9
West North Central								
Baseline	154.9	157.1	158.9	160.1	160.9	161.8	162.4	162.9
Nongradual	155.0	157.4	159.2	160.4	161.1	161.8	162.4	162.8
Gradual	155.0	157.2	159.1	160.6	161.4	162.0	162.6	163.0
West South Central								
Baseline	109.1	111.3	113.4	115.0	116.2	117.3	118.2	119.0
Nongradual	109.2	111.6	113.8	115.4	116.5	117.6	118.4	119.1
Gradual	109.1	111.4	113.6	115.4	116.7	117.6	118.5	119.2
Pacific Northwest								
Baseline	45.7	46.6	47.3	47.9	48.3	48.6	49.0	49.2
Nongradual	45.7	46.7	47.4	47.9	48.2	48.5	48.9	49.1
Gradual	45.7	46.6	47.4	48.0	48.4	48.7	49.0	49.2
Pacific Southwest								
Baseline	214.5	219.4	223.8	227.4	230.4	233.3	235.9	238.3
Nongradual	214.7	220.1	224.9	228.6	231.4	234.2	236.7	239.0
Gradual	214.6	219.6	224.2	228.2	231.3	234.1	236.5	238.8
U.S. Total								
Baseline	1544.7	1570.3	1592.7	1610.0	1623.3	1636.2	1648.2	1658.9
Nongradual	1546.0	1574.1	1596.8	1613.3	1625.5	1637.5	1648.4	1658.4
Gradual	1545.4	1571.8	1595.4	1615.3	1628.4	1639.6	1650.2	1660.2

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TABLE 25

SUMMARY IMPACTS FOR EMPLOYMENT - CHEMICALS & PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	43.3	43.7	43.8	44.0	44.2	44.3	44.4	44.3
Nongradual	43.4	43.8	43.6	43.8	44.0	44.1	44.1	44.0
Gradual	43.4	43.8	43.9	44.2	44.2	44.3	44.4	44.3
Middle Atlantic								
Baseline	241.7	241.8	241.0	240.4	239.6	238.7	237.6	236.6
Nongradual	242.2	242.9	242.2	241.4	240.6	239.6	238.2	237.0
Gradual	242.0	242.4	242.0	242.1	241.2	240.0	238.9	237.8
South Atlantic								
Baseline	224.8	224.3	222.6	221.0	220.6	220.6	220.4	220.1
Nongradual	225.3	225.4	224.0	222.4	221.9	221.8	221.3	220.8
Gradual	225.1	224.8	223.6	222.7	222.2	222.0	221.7	221.3
East North Central								
Baseline	223.6	223.3	222.2	221.3	220.7	220.3	219.5	218.5
Nongradual	224.0	224.3	223.3	222.2	221.6	221.1	220.0	218.8
Gradual	223.8	223.6	223.0	222.6	221.7	221.1	220.3	219.2
East South Central								
Baseline	73.6	73.0	72.1	71.5	71.3	71.3	71.1	71.1
Nongradual	73.7	73.1	71.7	70.9	70.8	70.7	70.4	70.4
Gradual	73.7	73.2	72.3	71.8	71.3	71.2	71.1	71.1
West North Central								
Baseline	57.4	57.2	56.8	56.4	56.2	56.3	56.3	56.2
Nongradual	57.5	57.4	56.7	56.2	56.2	56.2	56.1	56.0
Gradual	57.5	57.3	56.9	56.7	56.4	56.4	56.4	56.3
West South Central								
Baseline	128.4	128.6	128.2	127.9	127.8	127.6	127.2	126.7
Nongradual	128.6	129.4	129.8	129.7	129.4	129.2	128.5	127.9
Gradual	128.5	128.9	128.9	129.1	129.2	129.0	128.4	127.8
Pacific Northwest								
Baseline	20.3	20.3	20.2	20.1	19.9	19.9	19.8	19.7
Nongradual	20.3	20.3	20.2	20.0	19.9	19.8	19.7	19.6
Gradual	20.3	20.3	20.2	20.2	20.0	19.9	19.8	19.7
Pacific Southwest								
Baseline	88.3	88.1	87.5	87.0	86.6	86.1	85.4	84.7
Nongradual	88.5	88.5	87.8	87.2	86.8	86.2	85.4	84.6
Gradual	88.5	88.4	88.0	87.8	87.3	86.7	86.0	85.2
U.S. Total								
Baseline	1101.6	1100.1	1094.3	1089.6	1087.0	1085.1	1081.6	1077.8
Nongradual	1103.7	1105.2	1099.2	1093.8	1091.1	1088.6	1083.7	1079.1
Gradual	1102.8	1102.8	1098.9	1097.1	1093.5	1090.5	1086.8	1082.8

TABLE 26

SUMMARY IMPACTS FOR EMPLOYMENT - PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Nongradual	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Gradual	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Middle Atlantic								
Baseline	24.1	23.7	23.4	23.0	22.6	22.1	21.8	21.4
Nongradual	24.2	23.7	23.4	23.0	22.6	22.2	21.8	21.4
Gradual	24.2	23.7	23.4	23.0	22.6	22.2	21.8	21.5
South Atlantic								
Baseline	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
Nongradual	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
Gradual	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
East North Central								
Baseline	25.5	25.3	24.9	24.4	24.0	23.6	23.2	22.9
Nongradual	25.5	25.3	25.0	24.5	24.1	23.7	23.3	22.9
Gradual	25.5	25.3	24.9	24.5	24.1	23.7	23.3	22.9
East South Central								
Baseline	7.0	7.0	7.0	6.9	6.9	6.9	6.8	6.8
Nongradual	7.0	7.0	7.0	6.9	6.9	6.9	6.8	6.8
Gradual	7.0	7.0	7.0	7.0	6.9	6.9	6.8	6.8
West North Central								
Baseline	5.4	5.3	5.3	5.3	5.2	5.2	5.1	5.1
Nongradual	5.4	5.4	5.3	5.3	5.2	5.2	5.1	5.1
Gradual	5.4	5.3	5.3	5.3	5.2	5.2	5.1	5.1
West South Central								
Baseline	43.5	43.3	43.1	42.6	42.2	41.8	41.4	41.0
Nongradual	43.5	43.4	43.2	42.7	42.3	41.9	41.5	41.0
Gradual	43.5	43.3	43.1	42.7	42.3	41.9	41.5	41.1
Pacific Northwest								
Baseline	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
Nongradual	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
Gradual	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
Pacific Southwest								
Baseline	27.2	26.8	26.7	26.5	26.2	26.0	25.8	25.5
Nongradual	27.2	26.9	26.7	26.5	26.3	26.0	25.8	25.6
Gradual	27.2	26.9	26.7	26.5	26.3	26.0	25.8	25.6
U.S. Total								
Baseline	140.1	138.8	137.6	135.9	134.4	132.7	131.1	129.6
Nongradual	140.2	139.0	137.9	136.1	134.6	132.9	131.3	129.8
Gradual	140.2	138.9	137.8	136.3	134.7	133.0	131.4	129.9

TABLE 27

SUMMARY IMPACTS FOR EMPLOYMENT - RUBBER & PLASTICS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	53.3	54.5	55.6	55.8	57.1	58.1	58.7	59.2
Nongradual	53.5	54.9	56.1	56.1	57.4	58.3	58.9	59.2
Gradual	53.4	54.7	56.1	56.5	57.7	58.4	59.0	59.4
Middle Atlantic								
Baseline	112.2	115.4	118.5	119.7	122.0	123.8	125.2	126.0
Nongradual	113.2	116.7	119.5	120.5	122.7	124.3	125.5	126.2
Gradual	112.6	115.8	120.1	121.5	123.0	124.6	125.9	126.7
South Atlantic								
Baseline	70.4	72.7	74.9	75.3	77.0	78.3	79.3	80.0
Nongradual	70.8	73.4	75.5	75.7	77.3	78.6	79.4	80.1
Gradual	70.6	73.0	75.5	76.2	77.7	78.8	79.6	80.4
East North Central								
Baseline	290.4	298.6	306.1	308.0	314.3	319.3	323.2	325.5
Nongradual	292.3	301.7	308.7	310.0	315.8	320.4	323.8	325.9
Gradual	291.3	299.7	309.7	312.6	317.6	321.8	325.1	327.5
East South Central								
Baseline	83.1	86.1	88.8	90.3	92.7	94.8	96.5	97.8
Nongradual	83.7	87.0	89.4	90.7	93.2	95.1	96.6	97.9
Gradual	83.4	86.4	89.9	91.5	93.4	95.3	96.9	98.2
West North Central								
Baseline	33.7	34.8	35.8	36.0	36.8	37.5	38.0	38.3
Nongradual	33.9	35.1	36.0	36.2	36.9	37.5	38.0	38.3
Gradual	33.8	34.9	36.1	36.5	37.1	37.6	38.1	38.5
West South Central								
Baseline	71.8	74.2	76.3	76.8	78.5	79.8	80.6	81.2
Nongradual	72.2	75.0	77.5	77.7	79.4	80.6	81.3	81.8
Gradual	72.0	74.5	77.2	78.0	79.8	80.8	81.4	81.9
Pacific Northwest								
Baseline	5.0	5.2	5.4	5.5	5.7	5.8	6.0	6.1
Nongradual	5.1	5.3	5.4	5.5	5.7	5.8	6.0	6.1
Gradual	5.0	5.3	5.5	5.6	5.7	5.8	6.0	6.1
Pacific Southwest								
Baseline	90.9	93.4	96.2	97.5	99.6	101.2	102.5	103.1
Nongradual	91.7	94.6	97.3	98.4	100.4	101.8	102.9	103.5
Gradual	91.2	93.8	97.6	99.2	100.8	102.1	103.3	103.9
U.S. Total								
Baseline	810.7	834.8	857.7	865.0	883.8	898.6	910.0	917.1
Nongradual	816.3	843.7	865.4	870.9	888.8	902.3	912.3	919.1
Gradual	813.4	838.0	867.7	877.6	892.8	905.3	915.2	922.7

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TABLE 28

SUMMARY IMPACTS FOR EMPLOYMENT - LEATHER & PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	16.6	14.4	12.7	11.7	11.3	10.7	10.2	9.7
Nongradual	16.6	14.4	12.7	11.6	11.2	10.6	10.0	9.4
Gradual	16.6	14.4	12.7	11.6	11.2	10.7	10.1	9.5
Middle Atlantic								
Baseline	16.9	14.5	12.8	11.7	11.2	10.7	10.1	9.5
Nongradual	16.9	14.5	12.8	11.6	11.2	10.5	9.9	9.3
Gradual	16.9	14.6	12.8	11.7	11.2	10.6	10.0	9.3
South Atlantic								
Baseline	6.0	5.2	4.7	4.3	4.2	4.0	3.8	3.6
Nongradual	6.0	5.2	4.6	4.3	4.2	3.9	3.7	3.5
Gradual	6.0	5.3	4.7	4.3	4.1	4.0	3.8	3.5
East North Central								
Baseline	18.4	16.0	14.2	13.2	12.8	12.3	11.7	11.2
Nongradual	18.4	16.0	14.2	13.1	12.8	12.2	11.5	10.9
Gradual	18.4	16.0	14.3	13.2	12.7	12.2	11.7	11.0
East South Central								
Baseline	9.1	7.9	6.9	6.3	6.1	5.8	5.5	5.1
Nongradual	9.1	7.9	6.9	6.3	6.1	5.7	5.3	5.0
Gradual	9.1	7.9	6.9	6.3	6.1	5.7	5.4	5.0
West North Central								
Baseline	11.2	9.8	8.7	8.0	7.8	7.5	7.1	6.8
Nongradual	11.2	9.8	8.6	8.0	7.8	7.4	7.0	6.6
Gradual	11.2	9.8	8.7	8.0	7.7	7.4	7.1	6.6
West South Central								
Baseline	10.0	8.8	7.9	7.4	7.3	7.0	6.7	6.4
Nongradual	10.1	8.8	7.9	7.4	7.2	6.9	6.6	6.3
Gradual	10.1	8.8	7.9	7.4	7.2	6.9	6.7	6.3
Pacific Northwest								
Baseline	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Nongradual	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Gradual	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Pacific Southwest								
Baseline	6.6	5.8	5.2	4.8	4.7	4.5	4.3	4.1
Nongradual	6.6	5.8	5.1	4.8	4.7	4.4	4.2	4.0
Gradual	6.6	5.8	5.2	4.8	4.6	4.5	4.3	4.0
U.S. Total								
Baseline	95.3	82.8	73.5	67.7	65.6	62.7	59.7	56.8
Nongradual	95.4	82.8	73.2	67.4	65.4	62.0	58.5	55.2
Gradual	95.4	82.9	73.5	67.6	65.2	62.3	59.3	55.7

TABLE 29

SUMMARY IMPACTS FOR EMPLOYMENT - STONE, CLAY, & GLASS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	14.9	15.0	15.2	15.2	15.2	15.1	15.0	14.9
Nongradual	14.9	15.1	15.2	15.2	15.2	15.1	15.0	14.8
Gradual	14.9	15.0	15.2	15.3	15.2	15.1	15.0	14.8
Middle Atlantic								
Baseline	87.6	88.3	88.9	88.5	87.8	86.8	85.7	84.5
Nongradual	87.8	88.7	89.2	88.6	87.7	86.6	85.4	84.1
Gradual	87.7	88.5	89.2	89.0	88.0	86.8	85.5	84.2
South Atlantic								
Baseline	98.1	100.2	102.4	103.3	103.2	102.9	102.2	101.2
Nongradual	98.3	100.7	102.7	103.3	103.1	102.6	101.7	100.6
Gradual	98.2	100.4	102.8	103.8	103.5	102.8	101.9	100.8
East North Central								
Baseline	108.7	110.2	111.8	112.2	112.1	111.7	111.1	110.2
Nongradual	108.9	110.7	112.2	112.3	112.1	111.5	110.6	109.6
Gradual	108.8	110.5	112.2	112.8	112.5	111.7	110.8	109.7
East South Central								
Baseline	39.4	39.9	40.5	40.8	41.0	41.0	40.9	40.7
Nongradual	39.5	40.1	40.5	40.8	41.0	40.9	40.7	40.4
Gradual	39.5	40.0	40.6	41.0	41.1	41.0	40.8	40.5
West North Central								
Baseline	34.5	35.2	35.9	36.2	36.2	36.0	35.8	35.6
Nongradual	34.6	35.3	36.0	36.2	36.1	35.9	35.7	35.4
Gradual	34.6	35.3	36.1	36.4	36.2	36.0	35.7	35.4
West South Central								
Baseline	54.1	55.5	56.9	57.7	57.8	57.6	57.3	56.7
Nongradual	54.2	55.8	57.2	57.8	57.9	57.6	57.1	56.5
Gradual	54.2	55.7	57.1	58.0	58.1	57.7	57.1	56.5
Pacific Northwest								
Baseline	13.2	13.4	13.6	13.6	13.6	13.6	13.6	13.6
Nongradual	13.2	13.5	13.6	13.6	13.5	13.5	13.5	13.5
Gradual	13.2	13.4	13.6	13.7	13.6	13.6	13.5	13.5
Pacific Southwest								
Baseline	70.0	71.5	72.8	73.0	73.1	72.8	72.4	71.7
Nongradual	70.2	71.8	73.1	73.1	73.0	72.7	72.1	71.3
Gradual	70.1	71.7	73.1	73.4	73.3	72.8	72.2	71.4
U.S. Total								
Baseline	520.6	529.3	538.0	540.4	540.0	537.7	534.0	529.0
Nongradual	521.7	531.7	539.9	541.0	539.6	536.3	531.7	526.1
Gradual	521.2	530.5	540.0	543.3	541.4	537.3	532.5	526.9

TABLE 30

SUMMARY IMPACTS FOR EMPLOYMENT - PRIMARY METALS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	28.2	28.4	28.5	28.1	28.0	27.8	27.5	27.0
Nongradual	28.5	28.7	28.6	28.1	28.1	27.9	27.4	26.9
Gradual	28.3	28.5	28.8	28.5	28.1	27.8	27.5	27.0
Middle Atlantic								
Baseline	116.0	114.8	114.3	111.5	110.1	108.6	106.4	104.4
Nongradual	116.6	116.2	115.5	112.4	110.9	109.1	106.5	104.4
Gradual	116.2	115.2	115.4	113.3	111.4	109.3	106.8	104.6
South Atlantic								
Baseline	76.4	77.0	77.7	76.8	76.6	76.2	75.4	74.4
Nongradual	76.9	77.9	78.2	77.1	76.8	76.3	75.2	74.1
Gradual	76.7	77.4	78.6	78.2	77.3	76.6	75.7	74.6
East North Central								
Baseline	278.2	279.3	280.3	275.5	272.9	270.7	266.8	262.4
Nongradual	279.8	282.4	283.0	277.3	274.1	271.1	266.3	261.7
Gradual	279.0	280.3	283.3	280.3	276.4	272.6	267.9	263.1
East South Central								
Baseline	[illegible]	[illegible]	63.5	62.9	62.9	62.8	62.2	61.7
Nongradual	[illegible]	[illegible]	63.9	63.1	63.1	62.8	62.1	61.5
Gradual	62.6	[illegible]	[illegible]	63.9	63.3	62.9	62.3	61.7
West North Central								
Baseline	30.9	31.3	31.7	31.5	31.4	31.4	31.1	30.8
Nongradual	31.2	31.7	31.8	31.4	31.4	31.3	31.0	30.6
Gradual	31.0	31.5	32.1	32.0	31.6	31.4	31.2	30.9
West South Central								
Baseline	47.5	48.0	48.4	47.7	47.5	47.3	46.6	45.9
Nongradual	47.8	48.7	49.2	48.4	48.1	47.7	46.9	46.1
Gradual	47.7	48.2	49.0	48.7	48.4	47.8	47.0	46.2
Pacific Northwest								
Baseline	26.0	26.1	26.3	25.9	25.7	25.6	25.3	25.0
Nongradual	26.1	26.4	26.5	26.0	25.9	25.7	25.3	24.9
Gradual	26.1	26.2	26.6	26.3	26.0	25.7	25.4	25.0
Pacific Southwest								
Baseline	58.2	58.6	59.1	58.3	58.0	57.7	57.0	56.3
Nongradual	58.7	59.4	59.9	59.0	58.7	58.2	57.3	56.5
Gradual	58.4	58.9	59.9	59.4	58.9	58.3	57.4	56.6
U.S. Total								
Baseline	723.8	726.5	729.9	718.2	713.2	708.1	698.3	688.1
Nongradual	728.4	735.1	736.6	722.9	717.0	710.0	698.0	686.9
Gradual	726.0	729.6	737.8	730.6	721.2	712.4	701.1	689.9

TABLE 31

SUMMARY IMPACTS FOR EMPLOYMENT - FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	89.3	91.4	92.5	91.8	91.2	90.8	90.0	88.8
Nongradual	89.8	92.2	93.1	92.1	91.4	90.8	89.9	88.6
Gradual	89.6	91.8	93.2	92.8	91.9	91.1	90.2	89.0
Middle Atlantic								
Baseline	175.3	179.4	181.5	180.1	179.0	177.9	176.2	174.3
Nongradual	176.1	181.0	183.0	181.3	179.8	178.4	176.4	174.3
Gradual	175.8	180.2	182.9	182.2	180.8	178.9	176.8	174.8
South Atlantic								
Baseline -	134.3	137.8	139.9	139.8	140.1	140.7	140.9	140.4
Nongradual	135.1	139.2	140.8	140.2	140.3	140.7	140.6	140.0
Gradual	134.7	138.4	141.1	141.5	141.0	141.0	141.1	140.5
East North Central								
Baseline	471.2	482.3	489.1	488.8	487.5	487.7	487.0	483.6
Nongradual	473.5	486.9	493.1	491.3	489.0	488.3	486.6	482.8
Gradual	472.4	484.2	493.0	494.9	492.2	490.3	488.5	484.9
East South Central								
Baseline	103.0	105.8	107.5	107.5	107.9	108.4	108.5	108.3
Nongradual	103.7	107.0	108.3	108.1	108.4	108.7	108.6	108.3
Gradual	103.3	106.3	108.2	108.7	108.5	108.5	108.5	108.3
West North Central								
Baseline	109.8	112.9	114.8	114.9	115.0	115.4	115.4	114.9
Nongradual	110.4	114.0	115.7	115.4	115.3	115.5	115.3	114.7
Gradual	110.1	113.4	115.8	116.3	115.9	115.8	115.6	115.1
West South Central								
Baseline	131.7	135.1	137.2	136.4	136.6	136.8	136.2	135.5
Nongradual	132.1	136.4	139.4	138.5	138.3	138.2	137.4	136.5
Gradual	132.1	135.8	138.4	138.3	138.9	138.6	137.4	136.5
Pacific Northwest								
Baseline	26.2	26.7	27.0	26.7	26.6	26.7	26.6	26.6
Nongradual	26.3	26.9	27.2	26.8	26.7	26.7	26.6	26.5
Gradual	26.2	26.8	27.2	26.9	26.8	26.8	26.7	26.6
Pacific Southwest								
Baseline	151.4	155.0	156.7	156.2	156.9	157.4	157.5	156.8
Nongradual	152.2	156.6	158.7	157.9	158.2	158.4	158.1	157.3
Gradual	151.9	155.7	158.2	158.5	158.9	158.8	158.3	157.6
U.S. Total								
Baseline	1393.3	1427.4	1447.2	1443.1	1441.7	1442.7	1439.4	1430.4
Nongradual	1399.2	1440.1	1459.2	1451.4	1447.2	1445.7	1439.6	1428.9
Gradual	1396.1	1432.4	1457.9	1460.2	1454.8	1449.9	1443.2	1433.3

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TABLE 32

SUMMARY IMPACTS FOR EMPLOYMENT - NONELECTRICAL MACHINERY (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	150.3	154.1	157.9	161.8	165.7	169.4	171.5	172.0
Nongradual	151.7	156.4	159.8	163.4	167.2	170.7	172.4	172.8
Gradual	150.9	155.2	160.5	165.6	168.6	171.4	173.2	173.7
Middle Atlantic								
Baseline	257.1	259.9	263.4	266.8	271.3	275.4	276.9	276.8
Nongradual	258.8	263.2	266.5	269.3	273.5	277.2	278.1	277.7
Gradual	257.6	260.7	266.4	271.5	275.1	277.8	278.6	278.4
South Atlantic								
Baseline	219.5	224.9	230.1	235.4	241.8	247.0	249.9	251.0
Nongradual	221.2	228.0	232.9	237.8	243.9	248.8	251.2	252.0
Gradual	220.1	225.7	232.9	239.8	245.2	249.3	251.5	252.5
East North Central								
Baseline	600.2	612.8	623.3	634.1	648.0	659.6	665.1	666.2
Nongradual	602.1	618.5	630.5	639.9	652.4	663.0	667.2	667.6
Gradual	600.6	612.4	627.8	643.3	657.7	666.7	669.6	670.3
East South Central								
Baseline	109.6	112.3	114.7	117.3	120.5	123.4	125.2	126.2
Nongradual	110.7	113.9	115.7	118.0	121.1	123.9	125.4	126.3
Gradual	109.9	112.7	116.0	119.2	121.3	123.5	125.2	126.2
West North Central								
Baseline	191.4	195.3	198.2	201.6	205.5	209.1	210.9	211.1
Nongradual	193.1	198.0	200.6	203.5	207.3	210.6	211.9	211.9
Gradual	192.1	196.6	201.6	206.4	209.4	211.9	213.2	213.4
West South Central								
Baseline	182.9	187.5	191.8	195.8	200.1	204.2	206.1	206.4
Nongradual	183.8	190.1	195.8	199.9	203.8	207.7	209.2	209.3
Gradual	183.2	188.0	194.1	200.1	205.4	208.9	209.8	209.9
Pacific Northwest								
Baseline	43.6	44.8	45.9	47.0	48.4	49.6	50.4	50.8
Nongradual	44.2	45.6	46.4	47.4	48.7	49.9	50.6	51.0
Gradual	43.8	45.2	46.8	48.2	49.0	49.9	50.7	51.1
Pacific Southwest								
Baseline	273.4	280.1	287.1	294.6	301.6	307.6	310.8	311.6
Nongradual	275.6	284.7	293.0	300.6	307.4	313.0	315.6	316.1
Gradual	274.3	281.9	292.0	302.5	309.9	314.7	316.8	317.5
U.S. Total								
Baseline	2028.0	2071.7	2112.4	2154.3	2202.8	2245.5	2266.6	2272.2
Nongradual	2041.2	2098.4	2141.2	2179.7	2225.3	2264.7	2281.5	2284.6
Gradual	2032.5	2078.5	2138.0	2196.7	2241.7	2274.1	2288.6	2293.1

TABLE 33

SUMMARY IMPACTS FOR EMPLOYMENT - ELECTRICAL MACHINERY (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	130.3	131.2	132.4	133.2	134.5	135.7	136.1	136.1
Nongradual	131.3	132.9	134.2	134.9	136.1	137.0	137.1	136.9
Gradual	130.6	131.7	134.2	136.0	136.7	137.2	137.4	137.2
Middle Atlantic								
Baseline	206.3	205.2	205.7	205.1	206.3	207.4	207.4	207.1
Nongradual	207.4	207.3	208.0	207.1	208.0	208.8	208.3	207.6
Gradual	206.6	205.7	207.9	208.7	209.3	209.5	208.9	208.3
South Atlantic								
Baseline	214.4	215.3	217.0	218.0	220.8	223.7	225.4	226.1
Nongradual	215.6	217.6	219.3	220.1	222.7	225.2	226.4	226.7
Gradual	214.8	215.8	219.4	221.9	224.0	225.9	227.0	227.5
East North Central								
Baseline	335.5	336.2	338.8	339.0	340.6	342.8	343.4	342.6
Nongradual	336.9	339.2	341.8	341.4	342.5	344.1	343.9	342.6
Gradual	335.8	336.5	341.8	344.2	344.9	345.6	345.2	344.1
East South Central								
Baseline	105.1	105.3	105.9	106.3	107.2	108.3	109.0	109.1
Nongradual	105.7	106.4	106.9	107.1	107.9	108.8	109.2	109.1
Gradual	105.3	105.5	107.0	108.1	108.3	108.9	109.4	109.4
West North Central								
Baseline	99.4	98.4	98.3	97.6	98.1	98.5	98.4	98.0
Nongradual	99.9	99.4	99.2	98.4	98.7	99.0	98.7	98.1
Gradual	99.5	98.6	99.2	99.2	99.2	99.1	98.8	98.3
West South Central								
Baseline	132.0	132.5	132.9	132.9	133.9	135.0	135.5	135.3
Nongradual	132.4	133.8	134.9	134.8	135.6	136.5	136.7	136.3
Gradual	132.0	132.4	133.9	135.2	136.8	137.5	137.3	137.0
Pacific Northwest								
Baseline	36.4	36.6	36.9	37.0	37.4	37.9	38.3	38.4
Nongradual	36.6	37.0	37.1	37.3	37.6	38.1	38.3	38.4
Gradual	36.5	36.7	37.3	37.8	37.9	38.2	38.4	38.6
Pacific Southwest								
Baseline	314.7	315.2	317.7	320.6	325.6	330.5	333.6	335.4
Nongradual	316.7	319.1	322.4	325.3	330.1	334.4	336.7	338.0
Gradual	315.4	316.3	321.7	327.4	332.6	336.1	338.0	339.6
U.S. Total								
Baseline	1574.0	1575.9	1585.7	1589.7	1604.4	1619.9	1627.2	1628.1
Nongradual	1582.5	1592.6	1603.8	1606.4	1619.3	1631.8	1635.3	1633.5
Gradual	1576.5	1579.2	1602.5	1618.3	1629.7	1638.1	1640.4	1640.0

TABLE 34

SUMMARY IMPACTS FOR EMPLOYMENT - TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	115.6	112.2	109.4	107.9	107.2	107.3	107.3	107.3
Nongradual	115.4	112.5	110.7	109.4	108.5	108.5	108.3	108.1
Gradual	115.8	112.5	109.9	109.3	109.2	108.9	108.5	108.2
Middle Atlantic								
Baseline	119.9	118.9	117.7	115.1	113.8	113.5	112.9	112.4
Nongradual	120.4	120.2	119.1	116.3	115.0	114.5	113.7	113.1
Gradual	120.1	119.4	118.9	117.2	115.6	114.8	114.1	113.5
South Atlantic								
Baseline	205.2	209.3	212.8	212.7	212.8	214.4	215.8	216.9
Nongradual	206.4	211.9	215.4	214.9	214.9	216.2	217.1	217.9
Gradual	205.7	210.1	215.1	216.8	216.1	216.7	217.9	218.8
East North Central								
Baseline	585.1	592.3	597.2	590.6	583.8	583.6	584.0	583.4
Nongradual	589.2	600.4	603.6	595.2	588.2	587.1	586.1	585.1
Gradual	586.4	594.4	603.3	601.7	592.2	589.5	589.3	588.6
East South Central								
Baseline	124.5	126.6	127.7	126.2	125.7	126.0	126.2	126.6
Nongradual	124.9	127.7	129.2	127.6	126.9	127.2	127.1	127.3
Gradual	124.7	127.0	128.8	128.3	127.7	127.6	127.5	127.7
West North Central								
Baseline	143.9	144.4	144.4	142.2	141.3	141.6	141.9	142.0
Nongradual	144.7	146.2	146.1	143.6	142.7	142.8	142.7	142.7
Gradual	144.2	145.0	145.9	144.9	143.4	143.1	143.2	143.3
West South Central								
Baseline	143.4	144.2	144.1	141.0	140.4	141.0	141.2	141.7
Nongradual	143.6	145.3	146.1	143.0	142.3	142.7	142.7	143.0
Gradual	143.6	144.7	145.1	143.0	142.8	142.9	142.7	143.0
Pacific Northwest								
Baseline	149.7	151.1	152.5	151.8	152.0	153.0	153.7	154.3
Nongradual	150.6	153.0	154.3	153.3	153.5	154.2	154.6	155.0
Gradual	150.1	151.7	154.1	154.7	154.3	154.6	155.1	155.7
Pacific Southwest								
Baseline	301.9	302.8	303.5	299.5	298.6	299.2	299.2	299.4
Nongradual	303.3	306.1	307.4	303.2	302.1	302.2	301.7	301.5
Gradual	302.6	304.0	306.2	304.6	303.3	302.6	302.1	302.0
U.S. Total								
Baseline	1890.3	1903.0	1910.7	1888.1	1876.9	1880.8	1883.5	1885.1
Nongradual	1898.5	1923.4	1932.0	1906.7	1894.0	1895.3	1894.3	1893.7
Gradual	1893.3	1908.8	1927.2	1920.6	1904.6	1900.8	1900.4	1900.8

TABLE 35

SUMMARY IMPACTS FOR EMPLOYMENT - INSTRUMENTS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	112.8	114.3	115.2	115.9	116.6	117.4	118.3	118.9
Nongradual	113.1	115.0	116.2	116.8	117.4	118.0	118.6	119.0
Gradual	112.9	114.4	115.9	117.4	118.0	118.5	119.0	119.4
Middle Atlantic								
Baseline	195.1	194.3	194.4	194.6	195.0	196.0	197.0	198.0
Nongradual	195.3	195.3	195.8	196.2	196.4	197.1	197.6	198.3
Gradual	195.1	194.4	195.2	196.8	197.5	198.0	198.3	198.8
South Atlantic								
Baseline	84.7	85.7	86.6	87.4	88.4	89.6	90.8	92.0
Nongradual	84.9	86.2	87.2	88.1	89.0	90.1	91.1	92.0
Gradual	84.7	85.8	87.0	88.4	89.5	90.5	91.4	92.3
East North Central								
Baseline	126.0	126.5	126.5	126.5	127.0	128.0	129.0	130.0
Nongradual	126.2	127.3	127.6	127.6	128.0	128.7	129.5	130.2
Gradual	126.1	126.6	127.2	128.1	128.6	129.2	129.8	130.5
East South Central								
Baseline	13.6	13.8	13.9	14.1	14.2	14.4	14.6	14.8
Nongradual	13.6	13.9	14.1	14.2	14.3	14.5	14.6	14.8
Gradual	13.6	13.8	14.0	14.2	14.4	14.5	14.7	14.9
West North Central								
Baseline	51.7	52.2	52.7	53.1	53.7	54.4	55.1	55.8
Nongradual	51.8	52.5	53.1	53.5	54.1	54.7	55.3	55.8
Gradual	51.7	52.2	52.9	53.8	54.3	54.9	55.5	56.0
West South Central								
Baseline	42.5	42.8	43.1	43.3	43.7	44.2	44.7	45.2
Nongradual	42.6	43.0	43.4	43.7	44.0	44.5	44.9	45.2
Gradual	42.5	42.8	43.2	43.8	44.3	44.7	45.0	45.4
Pacific Northwest								
Baseline	24.4	24.7	24.9	25.1	25.4	25.7	26.1	26.4
Nongradual	24.5	24.9	25.1	25.3	25.5	25.8	26.1	26.4
Gradual	24.4	24.7	25.1	25.5	25.7	25.9	26.2	26.5
Pacific Southwest								
Baseline	228.1	229.3	230.4	231.7	233.8	236.4	239.1	241.3
Nongradual	228.5	230.8	232.3	233.5	235.4	237.6	239.6	241.3
Gradual	228.1	229.5	231.7	234.7	236.7	238.6	240.4	242.1
U.S. Total								
Baseline	877.6	882.1	885.8	889.3	895.2	903.7	912.1	919.7
Nongradual	879.2	887.3	892.8	896.5	901.6	908.5	914.7	920.4
Gradual	877.8	882.7	890.3	900.3	906.4	912.2	917.7	923.2

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TABLE 36

SUMMARY IMPACTS FOR EMPLOYMENT - MISCELLANEOUS (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	43.8	42.9	41.6	40.6	39.8	39.1	38.4	37.8
Nongradual	43.9	43.0	41.7	40.7	39.9	39.0	38.3	37.5
Gradual	43.8	42.9	41.7	40.8	40.0	39.1	38.4	37.7
Middle Atlantic								
Baseline	73.7	71.6	69.3	67.3	65.7	64.3	62.9	61.6
Nongradual	73.8	71.9	69.6	67.5	65.8	64.3	62.8	61.3
Gradual	73.7	71.7	69.6	67.7	66.1	64.5	63.0	61.6
South Atlantic								
Baseline	42.5	41.8	40.8	40.0	39.5	38.9	38.4	37.9
Nongradual	42.6	42.0	40.9	40.1	39.5	38.9	38.3	37.7
Gradual	42.6	41.9	40.9	40.2	39.6	39.0	38.4	37.8
East North Central								
Baseline	67.3	65.8	64.0	62.4	61.3	60.1	58.9	57.9
Nongradual	67.4	66.1	64.2	62.6	61.4	60.1	58.8	57.7
Gradual	67.4	65.9	64.1	62.8	61.5	60.2	59.0	57.8
East South Central								
Baseline	14.7	14.5	14.1	13.8	13.6	13.4	13.2	13.0
Nongradual	14.8	14.5	14.1	13.8	13.6	13.4	13.1	12.9
Gradual	14.7	14.5	14.1	13.9	13.6	13.4	13.2	13.0
West North Central								
Baseline	28.7	28.3	27.7	27.2	26.9	26.6	26.3	26.0
Nongradual	28.8	28.4	27.8	27.3	27.0	26.6	26.2	25.8
Gradual	28.7	28.3	27.8	27.4	27.0	26.6	26.3	25.9
West South Central								
Baseline	21.3	20.9	20.6	20.3	20.1	19.8	19.5	19.3
Nongradual	21.3	21.0	20.7	20.4	20.1	19.8	19.5	19.2
Gradual	21.3	21.0	20.7	20.4	20.2	19.9	19.6	19.3
Pacific Northwest								
Baseline	10.3	10.2	10.1	9.9	9.8	9.7	9.6	9.5
Nongradual	10.4	10.3	10.1	9.9	9.8	9.7	9.6	9.5
Gradual	10.3	10.3	10.1	10.0	9.9	9.7	9.6	9.5
Pacific Southwest								
Baseline	39.2	38.1	36.9	35.9	35.2	34.6	34.0	33.4
Nongradual	39.2	38.3	37.0	36.0	35.3	34.6	33.9	33.2
Gradual	39.2	38.1	37.0	36.1	35.4	34.7	34.0	33.4
U.S. Total								
Baseline	341.6	334.2	325.0	317.4	311.9	306.4	301.4	296.3
Nongradual	342.1	335.4	326.1	318.1	312.3	306.3	300.5	294.9
Gradual	341.8	334.6	325.9	319.1	313.3	307.2	301.5	295.9

TABLE 37

SUMMARY IMPACTS FOR PERSONAL INCOME ($ BILLIONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	322.1	341.5	360.2	380.4	403.3	428.1	454.9	482.8
Nongradual	322.3	342.1	361.2	381.7	404.9	430.1	457.3	485.7
Gradual	322.2	341.7	360.9	381.9	405.3	430.6	458.0	486.6
Middle Atlantic								
Baseline	905.0	952.7	1004.7	1060.0	1118.8	1180.9	1248.2	1319.3
Nongradual	905.7	954.4	1007.3	1063.5	1123.4	1186.5	1255.0	1327.4
Gradual	905.3	953.1	1006.0	1063.0	1123.1	1186.7	1255.7	1328.8
South Atlantic								
Baseline	920.2	980.2	1042.2	1108.3	1178.3	1252.6	1333.7	1420.5
Nongradual	921.1	982.8	1046.0	1113.1	1184.3	1259.9	1342.3	1430.7
Gradual	920.6	981.3	1044.8	1113.2	1184.6	1260.1	1343.0	1432.1
East North Central								
Baseline	893.9	947.6	1000.9	1055.9	1115.3	1179.0	1247.6	1319.9
Nongradual	894.9	950.5	1004.8	1060.5	1120.6	1185.3	1254.9	1328.4
Gradual	894.2	948.1	1002.8	1060.6	1121.4	1186.0	1256.0	1330.4
East South Central								
Baseline	264.6	280.3	296.0	312.5	331.0	351.1	372.7	395.6
Nongradual	264.9	281.1	296.9	313.5	332.2	352.5	374.3	397.6
Gradual	264.7	280.6	296.7	313.8	332.5	352.8	374.7	398.2
West North Central								
Baseline	363.5	384.7	406.1	427.0	450.3	476.9	505.4	535.4
Nongradual	363.9	385.8	407.5	428.6	452.3	479.4	508.4	538.9
Gradual	363.6	385.1	407.1	429.0	452.9	479.8	509.0	540.0
West South Central								
Baseline	513.5	547.8	581.7	616.8	655.8	697.3	741.9	789.0
Nongradual	514.1	549.5	584.8	621.2	661.3	703.7	749.3	797.4
Gradual	513.9	548.8	584.0	620.8	661.5	704.4	750.3	798.8
Pacific Northwest								
Baseline	223.4	237.3	251.9	266.9	283.0	300.3	319.0	339.0
Nongradual	223.7	238.1	252.8	267.8	284.0	301.6	320.6	340.9
Gradual	223.5	237.6	252.5	268.1	284.4	301.8	320.8	341.4
Pacific Southwest								
Baseline	973.0	1037.6	1102.8	1171.0	1245.5	1326.4	1413.8	1506.1
Nongradual	974.2	1041.3	1108.7	1178.7	1254.9	1337.6	1426.8	1521.3
Gradual	973.7	1039.6	1107.1	1178.8	1256.1	1339.1	1428.7	1524.0
U.S. Total								
Baseline	5379.2	5709.9	6046.5	6398.9	6781.4	7192.6	7637.3	8107.6
Nongradual	5384.8	5725.6	6069.9	6428.5	6818.0	7236.7	7688.8	8168.3
Gradual	5381.8	5715.9	6061.8	6429.3	6821.8	7241.2	7696.1	8180.2

TABLE 38

SUMMARY IMPACTS FOR WAGE & SALARY DISBURSEMENTS ($ BILLIONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	182.5	193.5	204.8	217.2	231.3	246.8	263.3	280.4
Nongradual	182.7	194.1	205.6	218.0	232.4	248.1	264.7	282.1
Gradual	182.6	193.7	205.4	218.4	232.8	248.5	265.3	282.8
Middle Atlantic								
Baseline	516.6	543.2	574.7	607.6	643.1	681.2	721.7	764.7
Nongradual	517.2	544.7	576.6	609.9	646.0	684.6	725.6	769.2
Gradual	516.8	543.5	575.7	609.9	646.2	684.9	726.4	770.5
South Atlantic								
Baseline	537.7	572.6	611.3	652.7	696.3	742.5	792.3	846.0
Nongradual	538.5	574.9	614.2	656.1	700.5	747.4	797.9	852.4
Gradual	538.1	573.6	613.4	656.6	700.9	747.6	798.6	853.7
East North Central								
Baseline	527.1	558.9	592.6	627.6	665.1	705.0	747.5	792.1
Nongradual	528.1	561.4	595.7	630.8	668.5	709.0	751.8	797.0
Gradual	527.5	559.2	594.3	631.5	669.6	709.7	752.8	798.8
East South Central								
Baseline	150.5	159.4	169.1	179.3	190.8	203.3	216.6	230.7
Nongradual	150.8	160.1	169.8	179.9	191.6	204.2	217.6	231.9
Gradual	150.6	159.7	169.6	180.4	191.9	204.4	217.8	232.4
West North Central								
Baseline	204.4	216.5	229.6	242.6	257.1	273.6	291.1	309.4
Nongradual	204.8	217.4	230.6	243.6	258.3	275.1	292.8	311.4
Gradual	204.6	216.8	230.4	244.2	258.9	275.4	293.3	312.3
West South Central								
Baseline	297.2	317.0	338.0	359.5	383.5	409.2	436.6	465.6
Nongradual	297.7	318.5	340.4	362.8	387.5	413.7	441.5	471.1
Gradual	297.5	317.9	339.8	362.7	387.8	414.4	442.4	472.2
Pacific Northwest								
Baseline	126.6	134.4	143.4	152.8	162.6	173.2	184.5	196.6
Nongradual	126.8	135.0	144.1	153.3	163.2	174.0	185.5	197.8
Gradual	126.7	134.6	143.9	153.8	163.6	174.1	185.6	198.2
Pacific Southwest								
Baseline	574.8	612.6	653.5	696.4	742.8	792.9	846.0	902.3
Nongradual	575.9	615.8	658.2	702.2	749.5	800.4	854.4	911.8
Gradual	575.4	614.4	657.1	702.8	750.8	801.7	855.9	914.0
U.S. Total								
Baseline	3117.3	3308.2	3517.0	3735.6	3972.6	4227.6	4499.6	4787.9
Nongradual	3122.6	3321.9	3535.2	3756.7	3997.5	4256.5	4532.0	4824.7
Gradual	3119.8	3313.4	3529.8	3760.3	4002.4	4260.7	4538.2	4834.8

TABLE 39

SUMMARY IMPACTS FOR FARM PROPRIETORS' INCOME ($ BILLIONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Nongradual	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Gradual	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Middle Atlantic								
Baseline	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Nongradual	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Gradual	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1
South Atlantic								
Baseline	7.1	7.4	7.8	7.9	7.9	7.9	7.9	7.8
Nongradual	7.1	7.4	7.7	7.9	7.9	7.9	7.9	7.8
Gradual	7.1	7.4	7.7	7.9	7.9	7.9	7.9	7.8
East North Central								
Baseline	6.3	6.6	7.0	7.2	7.3	7.3	7.3	7.2
Nongradual	6.3	6.6	7.0	7.2	7.3	7.3	7.3	7.2
Gradual	6.3	6.6	7.0	7.2	7.3	7.3	7.3	7.2
East South Central								
Baseline	3.6	3.9	4.2	4.3	4.4	4.4	4.4	4.3
Nongradual	3.6	3.9	4.2	4.3	4.4	4.4	4.4	4.3
Gradual	3.6	3.9	4.2	4.3	4.4	4.4	4.4	4.3
West North Central								
Baseline	11.8	12.1	12.5	12.6	12.7	12.8	12.8	12.6
Nongradual	11.8	12.1	12.5	12.6	12.7	12.8	12.8	12.6
Gradual	11.8	12.1	12.5	12.6	12.7	12.8	12.8	12.6
West South Central								
Baseline	8.3	8.4	8.6	8.6	8.7	8.8	8.8	8.7
Nongradual	8.3	8.4	8.6	8.6	8.7	8.8	8.8	8.7
Gradual	8.3	8.4	8.6	8.6	8.7	8.8	8.8	8.7
Pacific Northwest								
Baseline	4.4	4.5	4.6	4.6	4.6	4.7	4.7	4.6
Nongradual	4.4	4.5	4.6	4.6	4.6	4.7	4.7	4.6
Gradual	4.4	4.5	4.6	4.6	4.6	4.7	4.7	4.6
Pacific Southwest								
Baseline	8.5	8.8	9.2	9.4	9.4	9.4	9.4	9.3
Nongradual	8.5	8.8	9.2	9.4	9.4	9.4	9.4	9.3
Gradual	8.5	8.8	9.2	9.4	9.4	9.4	9.4	9.3
U.S. Total								
Baseline	52.5	54.4	56.7	57.4	57.8	58.0	57.8	57.2
Nongradual	52.5	54.3	56.6	57.4	57.9	58.1	58.0	57.3
Gradual	52.5	54.4	56.7	57.3	57.8	58.1	57.9	57.3

TABLE 40

SUMMARY IMPACTS FOR AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	35.1	36.2	37.7	39.3	41.1	43.1	45.2	47.5
Nongradual	35.1	36.3	37.7	39.5	41.3	43.4	45.6	47.9
Gradual	35.1	36.2	37.7	39.4	41.3	43.4	45.6	47.9
Middle Atlantic								
Baseline	35.2	36.3	37.7	39.3	41.0	42.9	44.9	47.0
Nongradual	35.2	36.3	37.7	39.4	41.2	43.1	45.2	47.3
Gradual	35.3	36.3	37.7	39.4	41.2	43.1	45.2	47.4
South Atlantic								
Baseline	28.1	29.1	30.3	31.7	33.3	35.0	36.9	38.9
Nongradual	28.1	29.2	30.4	31.8	33.5	35.3	37.2	39.2
Gradual	28.1	29.1	30.4	31.8	33.5	35.2	37.2	39.2
East North Central								
Baseline	34.6	35.7	37.0	38.6	40.3	42.1	44.1	46.2
Nongradual	34.6	35.7	37.0	38.7	40.5	42.4	44.4	46.5
Gradual	34.6	35.7	37.0	38.7	40.5	42.3	44.4	46.6
East South Central								
Baseline	25.6	26.5	27.6	28.8	30.3	31.8	33.4	35.1
Nongradual	25.6	26.5	27.6	28.9	30.4	32.0	33.6	35.4
Gradual	25.6	26.5	27.6	28.9	30.4	31.9	33.6	35.5
West North Central								
Baseline	30.6	31.5	32.7	34.1	35.7	37.4	39.2	41.2
Nongradual	30.6	31.6	32.8	34.2	35.9	37.6	39.5	41.5
Gradual	30.6	31.5	32.8	34.2	35.9	37.6	39.5	41.5
West South Central								
Baseline	30.8	31.8	33.1	34.6	36.1	37.8	39.6	41.5
Nongradual	30.8	31.8	33.1	34.7	36.3	38.1	39.9	41.9
Gradual	30.8	31.8	33.1	34.6	36.3	38.1	40.0	41.9
Pacific Northwest								
Baseline	31.9	32.9	34.3	35.9	37.6	39.4	41.4	43.4
Nongradual	31.9	33.0	34.4	36.0	37.8	39.7	41.7	43.8
Gradual	31.9	32.9	34.3	36.0	37.8	39.7	41.7	43.8
Pacific Southwest								
Baseline	34.6	35.8	37.2	38.8	40.5	42.4	44.4	46.5
Nongradual	34.6	35.8	37.2	38.9	40.7	42.7	44.8	46.9
Gradual	34.6	35.8	37.2	38.9	40.7	42.7	44.8	47.0
U.S. Total								
Baseline	32.2	33.3	34.6	36.1	37.8	39.5	41.5	43.5
Nongradual	32.2	33.3	34.6	36.2	37.9	39.8	41.8	43.8
Gradual	32.2	33.3	34.6	36.2	37.9	39.8	41.8	43.9

TABLE 41

SUMMARY IMPACTS FOR AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	28.4	29.6	30.8	32.3	34.0	35.9	37.9	40.0
Nongradual	28.4	29.6	30.9	32.4	34.1	36.1	38.1	40.3
Gradual	28.4	29.6	30.8	32.3	34.1	36.1	38.1	40.3
Middle Atlantic								
Baseline	30.0	30.9	32.2	33.7	35.5	37.3	39.3	41.4
Nongradual	30.0	31.0	32.3	33.8	35.6	37.5	39.5	41.7
Gradual	30.0	30.9	32.2	33.8	35.6	37.5	39.5	41.7
South Atlantic								
Baseline	26.3	27.3	28.5	30.0	31.5	33.1	34.8	36.7
Nongradual	26.3	27.3	28.6	30.1	31.6	33.3	35.1	37.0
Gradual	26.3	27.3	28.6	30.0	31.6	33.3	35.1	37.0
East North Central								
Baseline	25.0	26.0	27.2	28.6	30.0	31.6	33.3	35.1
Nongradual	25.1	26.1	27.3	28.6	30.2	31.8	33.5	35.4
Gradual	25.0	26.0	27.2	28.6	30.1	31.8	33.5	35.4
East South Central								
Baseline	22.7	23.5	24.6	25.9	27.3	28.8	30.5	32.3
Nongradual	22.7	23.6	24.7	25.9	27.4	29.0	30.7	32.5
Gradual	22.7	23.6	24.7	25.9	27.4	29.0	30.7	32.6
West North Central								
Baseline	23.2	24.1	25.2	26.4	27.7	29.2	30.7	32.4
Nongradual	23.2	24.1	25.3	26.5	27.8	29.3	31.0	32.7
Gradual	23.2	24.1	25.2	26.5	27.8	29.3	31.0	32.7
West South Central								
Baseline	25.5	26.4	27.6	28.9	30.6	32.3	34.1	36.0
Nongradual	25.5	26.4	27.6	29.1	30.7	32.5	34.4	36.4
Gradual	25.5	26.4	27.6	29.0	30.7	32.5	34.4	36.4
Pacific Northwest								
Baseline	25.8	26.7	28.0	29.4	31.0	32.6	34.4	36.3
Nongradual	25.8	26.8	28.1	29.5	31.1	32.8	34.7	36.6
Gradual	25.8	26.8	28.0	29.5	31.1	32.8	34.7	36.7
Pacific Southwest								
Baseline	29.5	30.7	32.0	33.5	35.1	36.9	38.8	40.9
Nongradual	29.5	30.7	32.1	33.6	35.3	37.2	39.1	41.2
Gradual	29.5	30.7	32.1	33.6	35.3	37.2	39.1	41.3
U.S. Total								
Baseline	26.8	27.8	29.0	30.4	32.0	33.7	35.5	37.4
Nongradual	26.8	27.8	29.1	30.5	32.2	33.9	35.7	37.7
Gradual	26.8	27.8	29.1	30.5	32.1	33.9	35.8	37.8

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TABLE 42

SUMMARY IMPACTS FOR AVERAGE HOURLY EARNINGS - MANUFACTURING($)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	12.3	12.8	13.4	14.0	14.8	15.5	16.4	17.2
Nongradual	12.3	12.8	13.4	14.1	14.8	15.6	16.5	17.4
Gradual	12.3	12.8	13.4	14.1	14.8	15.6	16.5	17.4
Middle Atlantic								
Baseline	12.5	13.0	13.6	14.2	14.9	15.7	16.5	17.4
Nongradual	12.5	13.0	13.6	14.3	15.0	15.8	16.6	17.5
Gradual	12.5	13.0	13.6	14.3	15.0	15.8	16.6	17.6
South Atlantic								
Baseline	10.6	11.1	11.6	12.3	12.9	13.7	14.4	15.3
Nongradual	10.6	11.1	11.7	12.3	13.0	13.8	14.6	15.4
Gradual	10.6	11.1	11.6	12.3	13.0	13.8	14.6	15.4
East North Central								
Baseline	13.8	14.4	15.0	15.7	16.4	17.3	18.1	19.0
Nongradual	13.8	14.4	15.0	15.8	16.5	17.4	18.2	19.2
Gradual	13.8	14.4	15.0	15.7	16.5	17.4	18.3	19.2
East South Central								
Baseline	10.8	11.2	11.7	12.3	13.0	13.7	14.4	15.2
Nongradual	10.8	11.2	11.8	12.4	13.0	13.8	14.5	15.3
Gradual	10.8	11.2	11.8	12.4	13.0	13.8	14.5	15.3
West North Central								
Baseline	12.0	12.5	13.0	13.7	14.4	15.1	15.9	16.7
Nongradual	12.0	12.5	13.1	13.7	14.4	15.2	16.0	16.9
Gradual	12.0	12.5	13.0	13.7	14.4	15.2	16.0	16.9
West South Central								
Baseline	11.5	12.0	12.6	13.2	13.9	14.6	15.3	16.2
Nongradual	11.5	12.0	12.6	13.3	14.0	14.7	15.5	16.3
Gradual	11.5	12.0	12.6	13.2	13.9	14.7	15.5	16.3
Pacific Northwest								
Baseline	13.4	14.0	14.6	15.3	16.0	16.8	17.7	18.6
Nongradual	13.4	14.0	14.6	15.3	16.1	16.9	17.8	18.8
Gradual	13.4	14.0	14.6	15.3	16.1	16.9	17.8	18.8
Pacific Southwest								
Baseline	12.5	13.0	13.6	14.2	14.9	15.7	16.5	17.4
Nongradual	12.5	13.0	13.6	14.3	15.0	15.8	16.7	17.6
Gradual	12.5	13.0	13.6	14.3	15.0	15.8	16.7	17.6
U.S. Total								
Baseline	12.3	12.8	13.3	14.0	14.7	15.5	16.3	17.1
Nongradual	12.3	12.8	13.4	14.0	14.8	15.6	16.4	17.3
Gradual	12.3	12.8	13.3	14.0	14.8	15.6	16.4	17.3

TABLE 43

SUMMARY IMPACTS FOR PRIVATE HOUSING STARTS (THOUSANDS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	38.9	43.4	45.2	46.0	48.4	50.0	51.6	53.4
Nongradual	39.1	43.5	44.9	45.5	47.8	49.2	50.8	52.5
Gradual	39.0	43.4	45.2	45.9	47.8	49.1	50.7	52.6
Middle Atlantic								
Baseline	97.2	105.8	108.8	107.1	108.3	108.1	108.3	109.2
Nongradual	97.6	105.9	108.2	105.9	106.9	106.6	106.6	107.6
Gradual	97.4	105.8	108.9	106.8	107.1	106.5	106.9	108.0
South Atlantic								
Baseline	328.4	350.1	358.2	355.3	354.6	348.2	344.3	342.8
Nongradual	329.6	350.4	356.1	351.6	351.0	344.5	340.1	338.1
Gradual	329.0	350.0	358.6	354.1	350.6	342.9	339.5	338.7
East North Central								
Baseline	188.0	188.9	190.3	187.5	183.3	176.1	170.6	166.7
Nongradual	188.7	189.1	189.1	185.3	180.9	173.7	168.5	165.3
Gradual	188.3	188.9	190.5	186.9	181.3	173.6	168.4	164.8
East South Central								
Baseline	64.6	70.8	73.5	73.1	73.1	71.7	70.8	70.5
Nongradual	64.9	70.9	73.0	72.3	72.2	70.8	69.8	69.3
Gradual	64.7	70.8	73.6	72.8	72.1	70.4	69.5	69.2
West North Central								
Baseline	85.8	91.4	93.1	91.1	89.2	85.6	82.7	80.5
Nongradual	86.1	91.4	92.5	90.1	88.2	84.7	81.7	79.6
Gradual	86.0	91.4	93.2	90.8	88.2	84.4	81.5	79.5
West South Central								
Baseline	109.3	135.5	142.1	136.3	136.5	135.0	134.4	134.3
Nongradual	109.7	135.7	141.2	135.0	135.3	134.1	133.6	133.7
Gradual	109.5	135.5	142.2	135.9	135.0	133.3	133.1	133.3
Pacific Northwest								
Baseline	70.7	76.7	79.7	78.1	77.2	74.8	72.8	71.2
Nongradual	70.9	76.8	79.2	77.3	76.4	74.0	72.1	70.6
Gradual	70.8	76.7	79.8	77.9	76.3	73.6	71.7	70.3
Pacific Southwest								
Baseline	238.3	270.9	288.4	294.3	303.3	304.1	306.2	310.1
Nongradual	239.1	271.2	286.7	291.5	301.0	302.5	305.2	309.4
Gradual	238.7	270.9	288.7	293.4	300.2	300.1	302.8	306.9
U.S. Total								
Baseline	1221.4	1333.6	1379.3	1368.8	1373.9	1353.7	1341.7	1338.7
Nongradual	1225.7	1334.8	1371.0	1354.5	1359.8	1340.2	1328.4	1326.1
Gradual	1223.4	1333.4	1380.8	1364.5	1358.6	1333.9	1324.2	1323.1

TABLE 44

SUMMARY IMPACTS FOR RESIDENT EMPLOYMENT (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	6575.2	6668.8	6748.4	6802.6	6875.2	6954.1	7024.8	7081.7
Nongradual	6582.0	6683.0	6760.1	6808.1	6875.8	6950.5	7017.0	7071.2
Gradual	6578.6	6674.4	6760.7	6822.4	6890.1	6961.3	7027.0	7082.0
Middle Atlantic								
Baseline	17522.7	17799.1	18052.0	18220.0	18377.0	18524.1	18666.6	18792.1
Nongradual	17538.3	17833.5	18083.0	18238.2	18384.1	18521.4	18653.6	18772.3
Gradual	17529.4	17809.4	18076.1	18259.9	18406.1	18535.4	18665.9	18786.7
South Atlantic								
Baseline	21522.2	21998.8	22429.9	22772.8	23137.1	23485.7	23828.1	24156.2
Nongradual	21542.8	22045.5	22476.5	22805.9	23157.4	23494.5	23824.2	24143.9
Gradual	21531.8	22017.2	22469.3	22836.2	23187.5	23512.2	23837.7	24158.6
East North Central								
Baseline	20605.2	20996.1	21295.1	21508.2	21708.8	21896.0	22089.2	22273.3
Nongradual	20629.3	21049.1	21346.6	21543.4	21729.9	21903.0	22080.3	22254.8
Gradual	20614.5	21009.5	21331.9	21573.6	21761.2	21922.8	22097.1	22273.5
East South Central								
Baseline	6979.9	7094.4	7191.3	7262.6	7338.8	7410.2	7478.1	7540.1
Nongradual	6985.5	7108.1	7205.9	7272.6	7344.0	7410.8	7473.8	7532.7
Gradual	6983.3	7099.9	7203.6	7283.3	7351.8	7412.3	7473.7	7532.9
West North Central								
Baseline	9243.2	9397.0	9524.9	9615.9	9710.2	9800.5	9888.6	9963.7
Nongradual	9251.0	9413.8	9538.9	9622.8	9711.1	9795.9	9879.2	9951.5
Gradual	9246.8	9403.7	9538.9	9638.4	9726.8	9807.8	9889.9	9962.3
West South Central								
Baseline	12732.9	13006.0	13243.9	13433.1	13617.2	13782.3	13936.8	14075.3
Nongradual	12743.5	13034.2	13281.2	13470.4	13652.5	13815.0	13964.1	14098.2
Gradual	12738.4	13019.0	13272.3	13480.4	13669.2	13828.1	13976.5	14113.4
Pacific Northwest								
Baseline	5284.9	5377.3	5457.0	5511.6	5564.6	5621.6	5678.0	5728.3
Nongradual	5290.0	5389.3	5468.0	5517.2	5565.3	5618.2	5671.0	5719.2
Gradual	5287.3	5381.6	5466.1	5526.8	5575.6	5624.9	5676.2	5724.2
Pacific Southwest								
Baseline	20407.5	20884.9	21315.6	21663.3	22017.8	22373.3	22716.1	23029.8
Nongradual	20429.1	20936.2	21373.5	21715.1	22063.0	22411.1	22744.0	23051.6
Gradual	20418.2	20908.8	21366.7	21747.2	22099.6	22438.7	22769.3	23079.1
U.S. Total								
Baseline	120873.6	123222.4	125258.1	126790.1	128346.5	129847.8	131306.2	132640.4
Nongradual	120991.5	123492.7	125533.8	126993.6	128483.0	129920.3	131307.2	132595.4
Gradual	120928.5	123323.4	125485.6	127168.2	128667.8	130043.4	131413.4	132712.7

TABLE 45

SUMMARY IMPACTS FOR LABOR FORCE (THOUSANDS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	7121.1	7176.2	7234.7	7290.7	7357.9	7431.3	7502.8	7563.4
Nongradual	7121.9	7178.2	7235.4	7288.9	7354.1	7426.2	7496.7	7556.4
Gradual	7121.6	7177.5	7236.3	7293.5	7359.9	7431.1	7501.0	7560.9
Middle Atlantic								
Baseline	18740.3	18960.5	19208.6	19436.8	19604.3	19739.0	19876.4	20003.8
Nongradual	18740.8	18963.3	19209.6	19433.4	19597.3	19730.2	19866.2	19991.8
Gradual	18740.4	18961.0	19206.8	19433.7	19599.1	19729.6	19864.6	19991.2
South Atlantic								
Baseline	22831.9	23253.7	23687.4	24089.4	24463.4	24829.9	25202.9	25566.2
Nongradual	22835.3	23264.5	23700.1	24098.1	24467.7	24831.0	25200.7	25561.3
Gradual	22833.4	23258.0	23695.7	24104.9	24477.2	24835.1	25201.0	25561.2
East North Central								
Baseline	21889.6	22202.7	22497.1	22752.3	22957.0	23142.4	23337.4	23526.6
Nongradual	21893.2	22214.3	22511.0	22762.0	22960.6	23140.0	23329.0	23514.0
Gradual	21891.1	22205.0	22500.9	22762.0	22966.9	23146.6	23334.6	23519.3
East South Central								
Baseline	7481.7	7569.4	7660.5	7753.1	7835.0	7904.5	7973.3	8039.2
Nongradual	7480.4	7568.6	7661.3	7753.6	7834.1	7902.6	7970.1	8034.9
Gradual	7481.2	7569.3	7659.6	7753.3	7834.0	7901.1	7968.2	8033.0
West North Central								
Baseline	9688.4	9832.2	9964.3	10079.7	10183.0	10280.0	10380.3	10477.0
Nongradual	9691.3	9839.0	9969.5	10081.1	10180.3	10273.9	10372.0	10467.6
Gradual	9689.8	9835.4	9969.8	10088.7	10189.5	10282.1	10378.9	10473.5
West South Central								
Baseline	13503.5	13757.8	13987.8	14203.1	14395.1	14569.9	14740.6	14902.9
Nongradual	13504.7	13766.4	14005.8	14225.9	14421.0	14598.3	14768.4	14928.9
Gradual	13504.2	13761.9	13997.9	14223.5	14425.1	14601.5	14772.0	14935.2
Pacific Northwest								
Baseline	5601.0	5685.0	5763.5	5833.9	5895.1	5955.0	6016.2	6076.3
Nongradual	5601.9	5688.2	5767.4	5836.0	5894.0	5951.0	6010.5	6069.8
Gradual	5601.4	5686.2	5765.5	5837.8	5898.6	5955.4	6013.2	6071.0
Pacific Southwest								
Baseline	21778.9	22217.5	22652.9	23070.2	23455.4	23822.3	24187.2	24534.9
Nongradual	21782.6	22231.4	22674.3	23095.4	23482.6	23850.3	24213.9	24560.3
Gradual	21780.5	22224.6	22668.9	23101.4	23494.1	23860.6	24223.9	24570.8
U.S. Total								
Baseline	128636.3	130655.0	132656.8	134509.3	136146.1	137674.4	139217.1	140690.4
Nongradual	128652.0	130713.9	132734.6	134574.3	136191.8	137703.4	139227.5	140685.1
Gradual	128643.7	130679.1	132701.3	134598.9	136244.3	137743.2	139257.5	140716.1

TABLE 46

SUMMARY IMPACTS FOR UNEMPLOYMENT RATE (%)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	7.7	7.1	6.7	6.7	6.6	6.4	6.4	6.4
Nongradual	7.6	6.9	6.6	6.6	6.5	6.4	6.4	6.4
Gradual	7.6	7.0	6.6	6.5	6.4	6.3	6.3	6.3
Middle Atlantic								
Baseline	6.5	6.1	6.0	6.3	6.3	6.2	6.1	6.1
Nongradual	6.4	6.0	5.9	6.1	6.2	6.1	6.1	6.1
Gradual	6.5	6.1	5.9	6.0	6.1	6.1	6.0	6.0
South Atlantic								
Baseline	5.7	5.4	5.3	5.5	5.4	5.4	5.5	5.5
Nongradual	5.7	5.2	5.2	5.4	5.4	5.4	5.5	5.5
Gradual	5.7	5.3	5.2	5.3	5.3	5.3	5.4	5.5
East North Central								
Baseline	5.9	5.4	5.3	5.5	5.4	5.4	5.3	5.3
Nongradual	5.8	5.2	5.2	5.4	5.4	5.3	5.4	5.4
Gradual	5.8	5.4	5.2	5.2	5.2	5.3	5.3	5.3
East South Central								
Baseline	6.7	6.3	6.1	6.3	6.3	6.3	6.2	6.2
Nongradual	6.6	6.1	5.9	6.2	6.3	6.2	6.2	6.2
Gradual	6.7	6.2	6.0	6.1	6.2	6.2	6.2	6.2
West North Central								
Baseline	4.6	4.4	4.4	4.6	4.6	4.7	4.7	4.9
Nongradual	4.5	4.3	4.3	4.5	4.6	4.7	4.8	4.9
Gradual	4.6	4.4	4.3	4.5	4.5	4.6	4.7	4.9
West South Central								
Baseline	5.7	5.5	5.3	5.4	5.4	5.4	5.5	5.6
Nongradual	5.6	5.3	5.2	5.3	5.3	5.4	5.4	5.6
Gradual	5.7	5.4	5.2	5.2	5.2	5.3	5.4	5.5
Pacific Northwest								
Baseline	5.6	5.4	5.3	5.5	5.6	5.6	5.6	5.7
Nongradual	5.6	5.3	5.2	5.5	5.6	5.6	5.6	5.8
Gradual	5.6	5.4	5.2	5.3	5.5	5.5	5.6	5.7
Pacific Southwest								
Baseline	6.3	6.0	5.9	6.1	6.1	6.1	6.1	6.1
Nongradual	6.2	5.8	5.7	6.0	6.0	6.0	6.1	6.1
Gradual	6.3	5.9	5.7	5.9	5.9	6.0	6.0	6.1
U.S. Total								
Baseline	6.0	5.7	5.6	5.7	5.7	5.7	5.7	5.7
Nongradual	6.0	5.5	5.4	5.6	5.7	5.7	5.7	5.8
Gradual	6.0	5.6	5.4	5.5	5.6	5.6	5.6	5.7

TABLE 47

SUMMARY IMPACTS FOR RESIDENT POPULATION (MILLIONS OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	13.3	13.3	13.4	13.5	13.6	13.6	13.7	13.8
Nongradual	13.3	13.3	13.4	13.5	13.5	13.6	13.7	13.7
Gradual	13.3	13.3	13.4	13.5	13.5	13.6	13.7	13.7
Middle Atlantic								
Baseline	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4
Nongradual	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4
Gradual	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4
South Atlantic								
Baseline	45.6	46.1	46.6	47.1	47.6	48.1	48.6	49.0
Nongradual	45.6	46.1	46.6	47.1	47.6	48.1	48.6	49.0
Gradual	45.6	46.1	46.6	47.1	47.6	48.1	48.5	49.0
East North Central								
Baseline	42.8	43.0	43.1	43.3	43.4	43.5	43.6	43.8
Nongradual	42.8	43.0	43.1	43.3	43.4	43.5	43.6	43.8
Gradual	42.8	43.0	43.1	43.3	43.4	43.5	43.6	43.8
East South Central								
Baseline	15.5	15.6	15.7	15.7	15.8	15.9	15.9	16.0
Nongradual	15.5	15.6	15.7	15.7	15.8	15.9	15.9	16.0
Gradual	15.5	15.6	15.7	15.7	15.8	15.9	15.9	16.0
West North Central								
Baseline	18.0	18.1	18.2	18.2	18.3	18.4	18.4	18.5
Nongradual	18.0	18.1	18.2	18.2	18.3	18.4	18.4	18.5
Gradual	18.0	18.1	18.2	18.2	18.3	18.4	18.4	18.5
West South Central								
Baseline	27.9	28.2	28.5	28.8	29.1	29.3	29.6	29.8
Nongradual	27.9	28.2	28.5	28.8	29.1	29.4	29.6	29.8
Gradual	27.9	28.2	28.5	28.8	29.1	29.3	29.6	29.8
Pacific Northwest								
Baseline	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8
Nongradual	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8
Gradual	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8
Pacific Southwest								
Baseline	44.6	45.1	45.6	46.2	46.7	47.2	47.7	48.2
Nongradual	44.6	45.1	45.6	46.2	46.7	47.2	47.7	48.2
Gradual	44.6	45.1	45.6	46.2	46.7	47.3	47.8	48.2
U.S. Total								
Baseline	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3
Nongradual	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3
Gradual	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3

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TABLE 48

SUMMARY IMPACTS FOR EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)

	1993	1994	1995	1996	1997	1998	1999	2000
New England								
Baseline	6155.1	6287.9	6396.8	6483.4	6566.6	6653.0	6734.8	6803.6
Nongradual	6159.8	6298.7	6405.5	6486.9	6566.0	6648.6	6726.2	6791.6
Gradual	6157.5	6291.6	6406.2	6501.5	6581.1	6660.4	6737.3	6803.7
Middle Atlantic								
Baseline	16793.4	17117.1	17401.1	17587.8	17740.5	17886.8	18025.5	18146.6
Nongradual	16806.7	17149.6	17432.6	17608.8	17750.7	17886.0	18012.5	18124.8
Gradual	16798.1	17122.8	17419.2	17625.8	17772.0	17902.3	18027.1	18140.3
South Atlantic								
Baseline	20255.9	20775.5	21238.0	21606.5	21933.3	22254.1	22573.5	22883.3
Nongradual	20278.4	20828.1	21291.9	21647.8	21961.4	22268.6	22573.1	22872.5
Gradual	20266.7	20797.7	21280.9	21676.9	21990.3	22285.5	22585.8	22885.8
East North Central								
Baseline	19449.1	19901.0	20247.2	20478.9	20679.8	20873.0	21054.8	21213.7
Nongradual	19471.0	19956.3	20302.4	20513.2	20696.0	20874.7	21038.8	21186.0
Gradual	19455.7	19907.0	20278.4	20546.1	20733.4	20897.4	21058.1	21208.5
East South Central								
Baseline	6451.4	6589.3	6692.1	6764.5	6835.6	6903.2	6964.2	7020.9
Nongradual	6459.6	6606.8	6704.0	6766.2	6830.8	6892.9	6947.6	6999.7
Gradual	6454.9	6594.4	6703.3	6784.7	6845.9	6899.9	6953.5	7006.9
West North Central								
Baseline	8370.4	8552.0	8687.6	8778.4	8877.6	8979.9	9074.2	9155.8
Nongradual	8380.7	8574.8	8704.8	8784.6	8878.1	8975.9	9063.7	9140.7
Gradual	8374.9	8559.4	8703.9	8809.2	8899.0	8987.0	9074.9	9154.7
West South Central								
Baseline	11339.0	11681.6	11942.6	12107.9	12257.0	12406.5	12548.2	12672.6
Nongradual	11352.6	11719.7	11999.2	12169.2	12311.5	12451.7	12585.3	12705.0
Gradual	11348.2	11706.0	11986.5	12176.8	12334.9	12476.9	12605.5	12723.6
Pacific Northwest								
Baseline	4741.7	4862.1	4963.8	5033.6	5096.1	5158.0	5216.9	5272.5
Nongradual	4748.2	4877.0	4974.1	5035.3	5093.2	5152.4	5207.5	5260.6
Gradual	4744.7	4867.0	4973.2	5051.1	5105.9	5157.0	5211.3	5266.3
Pacific Southwest								
Baseline	19018.6	19539.4	19998.3	20372.9	20726.1	21068.7	21396.7	21703.1
Nongradual	19047.8	19610.9	20086.2	20457.0	20799.7	21131.8	21448.6	21748.1
Gradual	19035.3	19580.8	20073.0	20491.3	20845.6	21166.4	21476.3	21777.2
U.S. Total								
Baseline	112574.8	115305.9	117567.5	119213.9	120712.5	122183.2	123588.7	124872.1
Nongradual	112704.7	115621.9	117900.8	119469.1	120887.4	122282.6	123603.2	124829.0
Gradual	112636.0	115426.8	117824.6	119663.4	121108.0	122432.7	123729.8	124967.1

Summary Impacts for Regions

TABLE 49

SUMMARY IMPACTS FOR NEW ENGLAND

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	6155.1	6287.9	6396.8	6483.6	6566.6	6653.0	6736.8	6803.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	6157.5	6291.6	6406.2	6501.5	6581.1	6660.4	6737.5	6803.9
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	212.1	230.2	245.9	254.7	258.2	261.8	263.0	261.2
Nongradual	212.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	212.1	230.0	245.8	254.9	259.1	261.0	261.4	259.0
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	439.6	447.0	453.2	459.0	465.8	472.8	479.6	485.8
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	439.6	446.7	453.0	458.9	465.5	472.2	478.8	485.0
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	1426.3	1466.7	1499.5	1522.3	1544.4	1569.3	1595.6	1620.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1426.4	1467.0	1500.2	1524.5	1546.0	1568.8	1593.6	1617.8
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	258.6	261.8	263.5	264.8	265.2	265.6	266.0	266.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	258.5	262.1	263.8	265.5	265.7	265.8	266.1	266.0
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	1849.6	1900.8	1940.3	1980.3	2018.8	2061.6	2102.5	2140.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1849.8	1900.9	1940.9	1982.2	2021.8	2063.2	2103.9	2142.2
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	3.3	3.2	3.1	3.0	2.9	2.9	2.9	2.8
Nongradual	3.3	3.2	3.1	3.0	3.0	2.9	2.9	[illegible]
Gradual	3.3	3.2	3.1	3.0	3.0	2.9	2.9	2.9
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	1123.3	1126.1	1127.3	1125.6	1127.8	1131.0	1130.7	1126.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1125.3	1129.6	1135.3	1138.5	1138.1	1137.7	1135.5	1130.4

TABLE 50

SUMMARY IMPACTS FOR MIDDLE ATLANTIC

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	16793.4	17117.1	17401.1	17587.8	17740.5	17886.8	18025.5	18146.6
Nongradual	16806.7	17146.6	17432.6	17608.8	17750.7	17882.0	18013.5	18126.8
Gradual	16798.1	17122.8	17419.2	17625.8	17772.6	17902.3	18027.1	18140.3
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	618.6	670.8	711.0	724.5	730.8	736.6	741.5	738.3
Nongradual	619.2	673.5	712.9	725.3	729.5	732.8	736.8	729.2
Gradual	618.4	670.1	709.7	724.2	730.3	733.9	735.6	729.4
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	1298.2	1317.0	1333.3	1350.7	1367.2	1382.6	1397.2	1410.7
Nongradual	1298.3	1317.8	1332.0	1350.6	1366.3	1381.2	1395.3	1408.5
Gradual	1298.0	1316.4	1332.8	1350.8	1367.0	1381.6	1395.6	1408.7
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	3671.6	3761.0	3835.3	3888.8	3931.5	3975.7	4019.9	4062.0
Nongradual	3673.3	3767.0	3840.8	3890.2	3929.0	3970.6	4012.5	4053.0
Gradual	3672.0	3761.5	3836.8	3894.2	3934.9	3974.0	4014.3	4055.0
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	925.8	927.9	929.3	928.0	926.7	921.8	918.8	915.5
Nongradual	926.7	930.1	931.9	929.9	926.1	922.5	918.9	915.2
Gradual	926.1	928.5	930.7	930.7	927.3	923.3	919.5	915.8
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	5026.8	5149.4	5263.3	5358.0	5444.4	5529.6	5616.4	5695.7
Nongradual	5027.9	5153.5	5268.3	5362.1	5437.1	5531.6	5615.5	5696.3
Gradual	5027.4	5149.9	5265.8	5364.5	5431.9	5536.5	5620.1	5701.6
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	31.0	30.2	29.2	28.3	27.4	26.4	25.8	25.3
Nongradual	31.1	30.3	29.3	28.5	27.5	26.3	25.7	25.2
Gradual	31.1	30.3	29.3	28.5	27.5	26.4	25.6	25.3
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	2555.9	2554.5	2551.2	2531.5	2521.3	2512.0	2496.6	2478.5
Nongradual	2564.3	2571.2	2566.8	2543.9	2531.2	2518.2	2500.1	2478.2
Gradual	2559.5	2560.0	2566.1	2555.9	2540.4	2524.3	2504.9	2484.8

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TABLE 51

SUMMARY IMPACTS FOR SOUTH ATLANTIC

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	20255.9	20775.5	21238.0	21606.5	21933.3	22256.1	22573.5	22883.3
Nongradual	20278.6	20828.1	21281.8	21647.8	21961.6	22268.6	22573.1	22872.5
Gradual	20266.7	20797.7	21280.9	21676.9	21990.3	22285.5	22585.8	22865.8
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	1038.4	1115.7	1187.7	1244.5	1274.5	1294.0	1308.6	1323.2
Nongradual	1040.3	1112.9	1188.9	1243.8	1270.5	1287.6	1300.4	1312.5
Gradual	1039.9	1116.7	1189.4	1246.9	1273.9	1289.3	1300.5	1312.8
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	1106.2	1128.0	1150.5	1172.6	1192.8	1213.3	1233.8	1254.0
Nongradual	1107.5	1130.6	1153.3	1175.8	1195.6	1215.5	1234.3	1255.1
Gradual	1106.6	1128.8	1151.7	1174.5	1194.4	1213.7	1233.3	1253.0
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	4792.7	4951.0	5089.6	5196.3	5294.3	5398.6	5507.5	5615.4
Nongradual	4796.5	4961.0	5102.8	5205.0	5302.8	5398.2	5503.2	5608.2
Gradual	4794.6	4956.7	5098.9	5213.3	5309.4	5405.6	5507.8	5613.6
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	1021.8	1031.1	1039.7	1045.5	1049.0	1053.6	1058.0	1062.1
Nongradual	1022.9	1034.3	1043.1	1047.9	1050.2	1053.9	1057.2	1061.2
Gradual	1022.3	1032.2	1041.8	1049.4	1052.4	1055.1	1056.4	1061.8
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	5400.7	5583.7	5737.0	5876.7	6014.0	6153.3	6293.4	6430.3
Nongradual	5405.5	5585.0	5750.7	5890.6	6022.0	6165.0	6303.2	6438.2
Gradual	5402.9	5589.2	5745.9	5891.0	6028.3	6165.2	6303.6	6440.0
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	70.3	69.7	68.9	68.0	66.6	65.1	64.2	63.7
Nongradual	70.5	70.0	69.3	68.1	66.7	65.1	64.1	63.6
Gradual	70.5	69.9	69.1	68.3	66.9	65.2	64.3	63.8
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	3071.8	3089.7	3098.7	3081.1	3075.8	3072.1	3061.3	3045.2
Nongradual	3082.5	3109.5	3115.6	3093.3	3086.9	3077.0	3061.3	3042.5
Gradual	3076.7	3097.2	3116.6	3109.3	3095.4	3083.1	3068.0	3049.9

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TABLE 52

SUMMARY IMPACTS FOR EAST NORTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	19449.1	19901.0	20247.2	20478.9	20679.8	20873.0	21054.8	21213.7
Nongradual	19471.0	19939.3	20302.5	20513.3	20696.0	20875.4	21038.8	21186.0
Gradual	19455.7	19907.0	20278.4	20546.1	20733.4	20897.4	21058.1	21208.5
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	763.2	824.1	873.6	906.3	926.3	932.9	940.3	946.7
Nongradual	764.0	830.3	876.9	905.7	922.2	925.1	932.5	935.1
Gradual	763.4	824.3	874.2	908.4	926.8	929.1	932.9	935.2
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	1099.0	1120.7	1136.9	1148.5	1160.3	1172.5	1184.0	1194.0
Nongradual	1099.2	1121.6	1136.2	1148.3	1158.3	1171.1	1183.0	1191.5
Gradual	1098.9	1120.1	1135.4	1148.5	1159.9	1171.1	1181.9	1191.6
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	4596.1	4724.6	4818.9	4881.6	4936.2	4995.7	5057.3	5117.0
Nongradual	4598.3	4732.9	4822.5	4884.8	4934.5	4990.5	5026.4	5105.6
Gradual	4596.0	4723.3	4819.7	4888.0	4940.0	4992.8	5049.1	5106.8
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	943.4	953.5	961.6	967.3	967.5	967.0	965.9	963.6
Nongradual	944.5	956.7	965.2	966.7	966.9	967.6	963.6	965.9
Gradual	943.6	953.6	962.8	970.4	970.4	968.4	966.0	963.3
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	4916.3	5068.4	5182.8	5281.3	5371.8	5461.8	5548.9	5632.5
Nongradual	4917.7	5073.2	5188.5	5284.8	5373.8	5463.0	5528.3	5630.5
Gradual	4916.4	5067.3	5183.1	5286.2	5376.0	5463.8	5549.8	5633.3
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	51.6	51.6	50.2	49.0	48.3	47.2	46.6	46.1
Nongradual	51.7	51.8	50.5	49.0	48.3	47.1	46.5	45.9
Gradual	51.6	51.7	50.4	49.2	48.5	47.3	46.7	46.1
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	4202.6	4247.2	4277.7	4268.8	4273.3	4284.0	4282.2	4267.6
Nongradual	4218.5	4280.6	4308.8	4291.5	4290.5	4292.8	4285.2	4266.8
Gradual	4208.8	4255.5	4306.5	4317.9	4313.3	4310.0	4299.6	4282.9

TABLE 53

SUMMARY IMPACTS FOR EAST SOUTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	6451.4	6589.3	6692.1	6764.5	6835.6	6903.2	6964.2	7020.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	6454.9	6594.4	6703.3	6784.7	6845.9	6899.9	6953.5	7006.9
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	270.9	291.5	309.0	322.5	328.8	330.8	330.4	329.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	271.0	291.5	308.9	323.0	328.1	327.8	326.5	325.4
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	282.7	287.8	290.8	293.4	297.0	300.8	304.4	307.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	282.7	287.7	290.7	293.4	296.7	300.1	303.3	306.4
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	1460.9	1505.6	1538.0	1559.3	1580.3	1604.2	1628.1	1650.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1461.3	1506.3	1539.4	1562.8	1582.0	1602.3	1624.0	1646.3
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	335.0	338.2	340.0	340.1	340.4	340.8	341.1	341.0
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	335.2	338.6	340.6	341.2	341.2	340.9	340.5	340.1
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	1406.5	1444.6	1472.7	1498.9	1527.1	1555.7	1583.5	1610.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1408.7	1444.8	1473.3	1500.6	1528.2	1555.3	1582.2	1608.7
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	55.0	55.1	54.5	54.0	53.2	52.3	51.7	51.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	55.1	55.2	54.7	54.2	53.4	52.3	51.7	51.2
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	1457.8	1468.1	1474.1	1469.2	1470.5	1471.1	1468.1	1463.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1460.4	1471.9	1482.5	1482.0	1477.2	1473.4	1468.8	1463.5

TABLE 54

SUMMARY IMPACTS FOR WEST NORTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	8370.4	8552.0	8687.6	8778.4	8877.6	8972.9	9074.2	9155.9
Nongradual	8380.7	8575.8	8704.8	8786.9	8878.1	8975.8	9063.6	9130.7
Gradual	8374.9	8559.4	8703.9	8809.2	8899.0	8967.0	9074.9	9154.7
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	323.1	346.1	366.1	377.3	386.8	392.5	395.4	396.9
Nongradual	323.5	347.3	366.5	375.5	385.5	390.1	393.1	390.3
Gradual	323.2	346.2	366.2	378.4	387.0	390.1	392.0	390.9
EMPLOYMENT - FINANCE, INSURANCE, REAL ESTATE (THOUS. OF PERSONS)								
Baseline	487.2	494.9	499.8	505.4	511.2	516.7	521.8	526.6
Nongradual	487.5	495.3	500.1	505.3	510.7	515.6	520.8	525.5
Gradual	487.3	494.7	499.7	505.6	511.1	516.1	521.0	525.6
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	2028.4	2084.6	2128.5	2155.0	2181.0	2211.7	2244.1	2276.1
Nongradual	2030.2	2089.9	2132.3	2155.1	2178.7	2208.5	2238.0	2268.0
Gradual	2029.0	2085.8	2130.8	2160.7	2184.3	2210.7	2240.8	2270.6
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	464.6	467.0	468.2	468.4	468.6	469.5	470.3	470.3
Nongradual	465.3	468.1	468.9	468.5	468.3	468.9	469.3	468.9
Gradual	464.9	467.7	469.5	470.6	470.2	470.3	470.7	470.4
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	2169.1	2231.7	2275.0	2313.5	2357.6	2402.7	2445.0	2485.6
Nongradual	2170.7	2235.8	2278.2	2316.0	2356.0	2402.7	2444.3	2484.8
Gradual	2169.9	2233.0	2277.5	2318.8	2361.8	2404.8	2446.7	2487.8
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	32.7	32.7	32.2	31.6	31.1	30.8	30.6	30.4
Nongradual	32.8	32.8	32.3	31.5	31.1	30.8	30.6	30.3
Gradual	32.8	32.8	32.3	31.6	31.2	30.8	30.6	30.4
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	1402.6	1414.6	1421.5	1417.8	1419.9	1423.6	1423.4	1418.8
Nongradual	1408.0	1424.9	1429.3	1425.4	1426.5	1428.3	1425.8	1418.2
Gradual	1405.1	1418.6	1431.1	1433.1	1430.6	1430.2	1428.2	1423.6

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SUMMARY IMPACTS FOR WEST SOUTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	11339.0	11681.6	11842.6	12107.9	12257.0	12406.5	12548.2	12672.6
Nongradual	11352.9	11719.6	11988.2	12199.2	12311.5	12451.7	12585.3	12705.0
Gradual	11348.2	11706.0	11986.5	12176.8	12334.9	12476.9	12605.5	12723.6
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	544.2	617.8	663.6	677.0	681.8	682.7	681.4	674.2
Nongradual	545.8	620.5	669.0	683.3	686.7	687.3	677.8	669.5
Gradual	544.9	620.6	668.2	682.6	688.6	687.1	681.0	670.7
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	627.4	641.0	650.7	659.6	669.1	679.1	688.5	697.5
Nongradual	628.1	643.8	653.1	662.1	671.5	681.3	690.3	696.1
Gradual	628.1	642.8	653.6	663.8	673.5	683.2	692.3	701.1
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	2680.0	2780.6	2861.2	2916.3	2962.9	3013.4	3065.8	3115.9
Nongradual	2684.6	2792.0	2875.8	2931.5	2977.1	3025.8	3076.5	3125.5
Gradual	2683.0	2788.6	2873.5	2935.3	2982.9	3030.8	3080.7	3129.7
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	688.0	696.7	702.9	705.7	707.4	709.5	711.6	712.8
Nongradual	688.6	699.5	707.5	710.1	711.0	712.6	715.2	715.1
Gradual	688.6	698.5	705.7	710.3	713.1	714.6	715.8	716.6
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	2789.7	2878.2	2949.9	3013.1	3077.0	3142.3	3207.0	3268.8
Nongradual	2792.1	2886.7	2959.4	3024.6	3088.8	3153.9	3213.9	3279.7
Gradual	2791.4	2883.5	2958.7	3026.5	3092.7	3158.7	3223.1	3284.9
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	273.0	274.6	275.2	271.2	267.9	266.5	264.5	261.8
Nongradual	273.6	275.3	276.1	272.0	268.8	267.0	264.8	262.2
Gradual	273.5	275.2	276.1	272.5	269.0	267.3	265.1	262.4
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	1588.1	1606.2	1614.0	1609.2	1611.9	1616.9	1611.8	1605.0
Nongradual	1592.1	1615.6	1631.6	1626.5	1625.6	1626.7	1621.2	1612.5
Gradual	1590.0	1607.7	1624.1	1627.3	1632.3	1631.1	1623.4	1615.2

TABLE 56

SUMMARY IMPACTS FOR PACIFIC NORTHWEST

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	4741.7	4862.1	4963.8	5033.6	5096.1	5158.0	5216.9	5272.5
Nongradual	4748.5	4877.0	4974.1	5035.3	5093.2	5155.6	5207.5	5260.9
Gradual	4744.7	4867.0	4973.2	5051.1	5105.9	5157.0	5211.3	5266.3
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	222.1	237.6	255.8	265.1	268.6	271.1	273.9	275.7
Nongradual	222.3	239.5	256.0	263.6	266.9	269.3	271.9	273.3
Gradual	222.1	237.7	255.9	265.6	268.3	269.0	271.3	273.1
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	260.5	265.2	269.7	273.9	277.9	281.8	285.5	288.9
Nongradual	260.6	265.5	269.9	273.8	277.5	281.2	282.9	287.8
Gradual	260.5	265.2	269.7	274.0	277.9	281.4	284.7	286.0
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	1162.5	1182.3	1213.9	1235.7	1254.5	1276.1	1296.7	1316.6
Nongradual	1143.8	1186.2	1216.9	1235.9	1252.9	1272.6	1283.5	1313.9
Gradual	1143.0	1183.3	1215.7	1239.7	1256.7	1274.9	1293.8	1313.7
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	259.3	261.3	262.9	263.4	263.4	263.7	264.1	264.2
Nongradual	259.7	262.5	263.7	263.2	263.3	263.8	263.6	263.8
Gradual	259.5	261.7	263.6	264.6	264.2	263.9	264.0	263.9
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	1161.4	1196.9	1225.5	1252.8	1279.5	1305.1	1329.9	1354.8
Nongradual	1162.8	1200.3	1227.4	1252.2	1278.6	1303.8	1327.9	1352.5
Gradual	1162.1	1197.9	1227.2	1256.3	1281.3	1304.8	1329.1	1354.3
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	43.2	43.8	44.2	43.8	43.5	43.1	42.9	42.6
Nongradual	43.3	44.0	44.4	43.8	43.5	43.1	42.8	42.6
Gradual	43.3	44.0	44.2	44.0	43.7	43.2	42.9	42.6
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	700.0	708.2	712.2	708.1	708.6	709.9	709.7	708.3
Nongradual	702.9	713.5	715.6	710.4	710.4	710.2	709.3	707.2
Gradual	701.4	710.4	717.0	715.7	713.3	712.2	711.2	709.4

TABLE 57

SUMMARY IMPACTS FOR PACIFIC SOUTHWEST

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	19018.6	19539.4	19998.3	20372.9	20726.1	21068.7	21396.7	21703.1
Nongradual	19047.8	19610.9	20086.2	20457.0	[illegible]	21131.6	21448.6	21748.1
Gradual	19035.3	19580.8	20073.0	20491.3	20845.6	21166.4	21476.3	21777.2
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	928.1	994.5	1067.8	1111.9	1131.4	1163.4	1169.9	1153.1
Nongradual	929.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	929.3	998.7	1074.3	1120.5	1138.1	1144.4	1145.7	1146.1
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	1186.1	1211.7	1232.9	1252.8	1275.5	1299.0	1321.0	1341.8
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1187.7	1215.5	1236.5	1260.9	1283.2	1305.5	1327.8	1347.7
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	4464.3	4617.3	4750.1	4857.9	4959.0	5062.5	5168.8	5271.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5081.9	5185.8	[illegible]
Gradual	4469.1	4630.4	4770.5	4889.5	4992.2	5090.6	5192.5	5294.2
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	966.7	977.2	984.3	987.3	989.6	993.8	997.6	1000.5
Nongradual	[illegible]	980.7	[illegible]	[illegible]	[illegible]	[illegible]	1000.0	1002.3
Gradual	967.6	979.6	988.5	994.2	997.3	1000.3	1002.9	1005.2
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	5525.9	5716.3	5874.2	6027.2	6180.8	6331.6	6479.2	6622.6
Nongradual	[illegible]	5732.0	5892.0	6045.1	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	5529.5	5725.3	5888.4	6050.6	6205.0	6353.8	6501.1	6646.2
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	106.0	106.5	105.8	103.4	102.2	100.7	99.6	98.5
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	101.0	[illegible]	[illegible]
Gradual	106.2	106.8	106.1	103.9	102.6	101.0	99.9	98.7
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	2614.2	2635.0	2652.4	2656.7	2667.1	2678.7	2682.8	2680.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2696.0	[illegible]	[illegible]
Gradual	2618.6	2642.9	2673.6	2689.8	2700.2	2703.4	2701.1	2696.3

TABLE 58

SUMMARY IMPACTS FOR U.S. TOTAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - TOTAL NON-AGRICULTURAL (THOUS. OF PERSONS)								
Baseline	112574.8	115305.9	117567.5	118213.9	120712.5	122183.2	123588.7	124872.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	112636.0	115426.8	117824.8	119663.4	121106.0	122432.7	123729.8	124967.1
EMPLOYMENT - CONSTRUCTION (THOUS. OF PERSONS)								
Baseline	4921.5	5328.2	5680.5	5883.8	5988.3	6046.0	6084.6	6094.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	4924.4	5335.8	5692.9	5904.5	5999.6	6031.8	6046.9	6042.6
EMPLOYMENT - FINANCE,INSURANCE,REAL ESTATE (THOUS. OF PERSONS)								
Baseline	6787.0	6913.3	7017.0	7115.9	7216.9	7318.6	7415.9	7506.8
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	6789.2	6918.1	7025.2	7130.4	7229.2	7324.9	7417.9	7507.1
EMPLOYMENT - TRADE (THOUS. OF PERSONS)								
Baseline	26262.9	27073.5	27734.8	28213.1	28646.1	29107.2	29583.7	30063.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	26274.9	27102.9	27785.5	28308.0	28728.6	29150.4	29596.6	30047.1
EMPLOYMENT - TRANSPORTATION & UTILITIES (THOUS. OF PERSONS)								
Baseline	5863.1	5916.7	5952.6	5970.5	5975.7	5984.9	5993.3	5995.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	5866.4	5922.4	5967.0	5997.0	6001.8	6002.5	6003.8	6003.2
EMPLOYMENT - SERVICES (THOUS. OF PERSONS)								
Baseline	30246.2	31169.9	31920.8	32601.9	33273.1	33943.7	34603.7	35261.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	30256.2	31191.9	31960.7	32676.7	33346.8	34006.1	34659.6	35298.8
EMPLOYMENT - MINING (THOUS. OF PERSONS)								
Baseline	666.1	667.4	663.4	652.0	643.3	635.0	628.7	622.3
Nongradual	[illegible]	670.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	667.3	669.1	665.6	655.3	645.8	636.5	629.9	623.4
EMPLOYMENT - TOTAL MANUFACTURING (THOUS. OF PERSONS)								
Baseline	18716.3	18847.6	18929.1	18865.8	18876.3	18897.3	18866.6	18795.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	18745.6	18893.6	19053.1	19069.5	19040.8	19005.3	18940.9	18856.2

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TABLE 59

SUMMARY IMPACTS FOR NEW ENGLAND

Region		1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT -	FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline		43.9	43.3	42.6	41.9	41.3	40.8	40.2	39.6
Nongradual		43.9	43.2	42.5	41.8	41.2	40.6	40.0	39.5
Gradual		43.9	43.4	42.7	42.0	41.3	40.8	40.2	39.6
EMPLOYMENT -	TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline		34.9	33.9	32.5	31.3	30.3	29.5	28.6	27.7
Nongradual		35.0	34.0	32.9	31.3	30.3	29.5	28.5	27.7
Gradual		34.9	33.9	32.7	31.4	30.4	29.5	28.6	27.6
EMPLOYMENT -	APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline		29.3	28.3	27.3	26.3	25.5	24.7	24.0	23.4
Nongradual		29.4	28.3	27.2	26.2	25.2	24.9	23.8	23.3
Gradual		29.4	28.3	27.4	26.4	25.4	24.7	24.0	23.3
EMPLOYMENT -	LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline		26.9	28.0	28.7	28.6	28.5	28.6	28.6	28.3
Nongradual		26.9	28.2	28.9	28.5	28.2	28.4	28.3	28.1
Gradual		26.9	28.1	28.7	28.6	28.4	28.4	28.4	28.1
EMPLOYMENT -	FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline		12.9	13.1	13.2	13.2	13.2	13.3	13.3	13.3
Nongradual		12.9	13.1	13.5	13.1	13.1	13.2	13.3	13.2
Gradual		12.9	13.1	13.2	13.2	13.2	13.2	13.3	13.3
EMPLOYMENT -	PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		57.5	57.3	56.9	56.3	55.9	55.5	55.1	54.6
Nongradual		57.7	57.6	57.0	56.5	55.9	55.5	55.0	54.5
Gradual		57.6	57.4	57.1	56.6	56.0	55.6	55.1	54.6
EMPLOYMENT -	PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline		98.0	99.5	100.8	101.9	102.6	103.3	104.0	104.7
Nongradual		98.1	99.7	100.9	101.7	102.5	103.1	103.6	104.5
Gradual		98.1	99.6	101.0	102.1	102.8	103.3	104.0	104.6
EMPLOYMENT -	CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline		43.3	43.7	43.9	44.0	44.2	44.3	44.4	44.3
Nongradual		43.2	43.6	43.8	43.9	44.0	44.1	44.1	44.0
Gradual		43.4	43.8	43.9	44.2	44.2	44.3	44.4	44.3
EMPLOYMENT -	PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Nongradual		1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Gradual		1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
EMPLOYMENT -	RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline		53.3	54.5	55.6	55.9	57.1	58.1	58.7	58.2
Nongradual		53.5	54.9	55.9	56.3	57.4	58.3	58.6	58.5
Gradual		53.4	54.7	56.1	56.5	57.7	58.4	59.0	59.4
EMPLOYMENT -	LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		16.6	14.4	12.7	11.7	11.3	10.7	10.2	9.7
Nongradual		16.6	14.4	12.5	11.6	11.3	10.6	10.0	9.5
Gradual		16.6	14.4	12.7	11.6	11.2	10.7	10.1	9.5
EMPLOYMENT -	STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline		14.9	15.0	15.2	15.2	15.2	15.1	15.0	14.8
Nongradual		14.9	15.1	15.5	15.5	15.5	15.1	15.0	14.8
Gradual		14.9	15.0	15.2	15.3	15.2	15.1	15.0	14.8
EMPLOYMENT -	PRIMARY METALS (THOUS. OF PERSONS)								
Baseline		28.2	28.4	28.5	28.1	28.0	27.8	27.5	27.0
Nongradual		28.5	28.7	28.6	28.1	28.1	27.9	27.5	26.9
Gradual		28.3	28.5	28.8	28.5	28.1	27.8	27.5	27.0
EMPLOYMENT -	FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		89.3	91.4	92.5	91.8	91.2	90.8	90.0	88.8
Nongradual		89.9	92.3	93.1	92.1	91.5	90.9	89.9	88.6
Gradual		89.6	91.8	93.2	92.8	91.9	91.1	90.2	89.0
EMPLOYMENT -	NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		150.3	154.1	157.9	161.8	165.7	168.4	171.5	172.0
Nongradual		151.7	156.4	159.8	163.5	167.5	170.2	174.3	175.8
Gradual		150.9	155.2	160.5	165.6	168.6	171.4	173.2	173.9
EMPLOYMENT -	ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		130.3	131.2	132.4	133.2	134.5	135.7	136.1	136.1
Nongradual		131.3	132.9	133.3	134.9	136.1	137.0	139.1	139.9
Gradual		130.6	131.7	134.2	136.0	136.7	137.2	137.4	139.2
EMPLOYMENT -	TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline		115.6	112.2	109.4	107.9	107.2	107.3	107.3	107.3
Nongradual		115.8	112.5	110.7	108.5	108.5	108.5	108.3	108.1
Gradual		115.8	112.5	109.9	109.3	109.2	108.9	108.5	108.2
EMPLOYMENT -	INSTRUMENTS (THOUS. OF PERSONS)								
Baseline		112.9	114.3	115.2	115.9	116.6	117.4	118.3	118.9
Nongradual		113.1	115.0	116.5	116.8	117.5	118.0	118.8	119.0
Gradual		112.9	114.4	115.9	119.2	118.0	118.5	119.0	119.4
EMPLOYMENT -	MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline		43.8	42.9	41.6	40.6	39.8	39.1	38.4	37.8
Nongradual		43.9	43.0	41.5	40.2	39.9	39.0	38.3	37.5
Gradual		43.8	42.9	41.7	40.6	40.0	39.1	38.4	37.7

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SUMMARY IMPACTS FOR MIDDLE ATLANTIC

	Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT -	FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline		193.7	191.4	188.4	185.1	181.8	178.6	175.4	172.2
Nongradual		193.6	191.0	188.6	185.1	181.8	178.4	175.0	171.6
Gradual		193.7	191.4	188.5	185.3	181.8	178.5	175.2	172.0
EMPLOYMENT -	TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline		56.1	54.3	52.1	49.5	47.4	45.5	43.5	41.7
Nongradual		56.3	54.0	52.3	49.6	47.5	45.3	43.3	41.9
Gradual		56.2	54.5	52.4	49.8	47.6	45.3	43.6	41.7
EMPLOYMENT -	APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline		190.2	183.4	177.4	170.3	164.2	158.5	153.0	147.6
Nongradual		190.6	184.1	176.8	170.6	164.3	158.3	153.6	147.0
Gradual		190.4	183.6	178.0	171.2	164.6	158.7	153.1	147.4
EMPLOYMENT -	LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline		49.7	52.1	53.5	53.2	53.0	52.9	52.5	52.0
Nongradual		49.6	52.3	53.9	53.1	52.8	52.6	52.3	51.9
Gradual		49.8	52.2	53.7	53.4	53.0	52.6	52.2	51.9
EMPLOYMENT -	FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline		43.7	45.2	46.0	45.9	45.8	45.7	45.6	45.4
Nongradual		43.6	45.4	46.1	45.9	45.8	45.9	45.3	45.2
Gradual		43.8	45.2	46.2	46.2	46.0	45.7	45.5	45.3
EMPLOYMENT -	PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		102.8	102.4	101.4	100.2	99.3	98.6	97.7	96.8
Nongradual		103.1	102.9	101.7	100.3	99.5	98.9	97.6	96.7
Gradual		103.0	102.6	101.6	100.7	99.5	98.7	97.8	96.9
EMPLOYMENT -	PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline		292.6	296.7	300.0	302.3	304.0	305.7	307.4	308.9
Nongradual		292.9	297.5	300.7	302.9	304.3	305.6	307.4	308.6
Gradual		292.7	297.0	300.5	303.3	304.9	306.3	307.8	309.1
EMPLOYMENT -	CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline		241.7	241.8	241.0	240.4	239.6	238.7	237.6	236.6
Nongradual		242.6	242.9	242.6	241.7	240.6	238.6	236.9	237.0
Gradual		242.0	242.4	242.0	242.1	241.2	240.0	238.9	237.8
EMPLOYMENT -	PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		24.1	23.7	23.4	23.0	22.6	22.1	21.8	21.4
Nongradual		24.2	23.7	23.2	23.0	22.6	22.2	21.8	21.3
Gradual		24.2	23.7	23.4	23.0	22.6	22.2	21.8	21.5
EMPLOYMENT -	RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline		112.3	115.4	118.5	119.7	122.0	123.0	125.2	126.0
Nongradual		113.2	116.2	118.5	120.5	123.2	122.3	125.5	126.2
Gradual		112.6	115.8	120.1	121.5	123.0	124.6	125.9	126.7
EMPLOYMENT -	LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		16.9	14.5	12.8	11.7	11.2	10.7	10.1	9.5
Nongradual		16.9	14.5	12.8	11.9	11.5	10.6	9.9	9.3
Gradual		16.9	14.6	12.8	11.7	11.2	10.6	10.0	9.3
EMPLOYMENT -	STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline		87.6	88.3	88.9	88.5	87.8	86.8	85.7	84.5
Nongradual		87.8	88.7	89.2	88.7	87.7	86.6	85.5	84.1
Gradual		87.7	88.5	89.2	89.0	88.0	86.8	85.5	84.2
EMPLOYMENT -	PRIMARY METALS (THOUS. OF PERSONS)								
Baseline		116.0	114.8	114.3	111.5	110.1	108.6	106.4	104.4
Nongradual		116.9	116.2	115.5	113.4	110.9	109.1	106.5	104.5
Gradual		116.2	115.2	115.4	113.3	111.4	109.3	106.8	104.6
EMPLOYMENT -	FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		175.3	179.4	181.5	180.1	179.0	177.9	176.2	174.3
Nongradual		176.1	181.0	183.0	181.3	178.8	178.5	176.5	174.3
Gradual		175.8	180.2	182.9	182.2	180.8	178.9	176.8	174.8
EMPLOYMENT -	NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		257.1	259.9	263.4	266.8	271.3	275.4	276.9	276.8
Nongradual		258.9	263.5	266.5	269.3	273.5	277.3	278.1	277.2
Gradual		257.6	260.7	266.4	271.5	275.1	277.8	278.6	278.4
EMPLOYMENT -	ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		206.3	205.2	205.7	205.1	206.3	207.4	207.4	207.1
Nongradual		207.5	207.3	208.0	207.1	208.0	208.8	208.3	207.6
Gradual		206.6	205.7	207.9	208.7	209.3	209.5	208.9	208.3
EMPLOYMENT -	TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline		118.9	118.9	117.7	115.1	113.8	113.5	112.9	112.4
Nongradual		120.4	120.2	118.1	116.3	115.0	112.5	113.1	113.3
Gradual		120.1	119.4	118.9	117.2	115.6	114.8	114.1	113.5
EMPLOYMENT -	INSTRUMENTS (THOUS. OF PERSONS)								
Baseline		195.1	194.3	194.4	194.6	195.0	196.0	197.0	198.0
Nongradual		195.3	195.3	195.0	196.2	196.5	196.1	196.6	198.3
Gradual		195.1	194.4	195.2	196.8	197.5	198.0	198.3	198.8
EMPLOYMENT -	MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline		73.7	71.6	69.3	67.3	65.7	64.3	62.9	61.6
Nongradual		73.6	71.9	69.6	67.5	65.6	64.3	63.8	61.3
Gradual		73.7	71.7	69.6	67.7	66.1	64.5	63.0	61.6

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TABLE 61

SUMMARY IMPACTS FOR SOUTH ATLANTIC

Region		1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT -	FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline		251.2	251.6	250.6	248.5	246.6	244.3	242.1	239.8
Nongradual		251.5	251.8	250.8	248.7	246.2	243.9	241.5	239.0
Gradual		251.4	251.7	250.9	249.2	246.8	244.5	242.2	239.8
EMPLOYMENT -	TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline		445.1	436.5	426.1	418.0	398.9	388.5	377.9	367.5
Nongradual		444.6	436.7	425.7	418.8	399.1	388.0	376.9	366.3
Gradual		445.9	435.7	426.1	418.5	400.1	388.6	377.6	367.0
EMPLOYMENT -	APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline		248.6	242.5	236.9	230.2	224.6	218.0	213.7	208.6
Nongradual		248.3	243.4	237.3	230.5	224.5	218.8	213.6	207.5
Gradual		248.9	242.9	237.6	231.2	224.9	219.0	213.4	207.9
EMPLOYMENT -	LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline		143.9	150.1	153.7	152.6	152.1	151.7	150.8	149.4
Nongradual		144.5	150.4	153.9	152.9	151.5	150.6	149.5	148.1
Gradual		144.2	150.6	154.1	153.1	152.0	150.9	149.7	148.3
EMPLOYMENT -	FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline		131.4	135.4	137.7	137.6	137.5	137.6	137.6	137.4
Nongradual		131.7	136.1	138.3	137.8	137.5	137.4	137.2	137.0
Gradual		131.6	135.7	138.3	138.5	138.2	137.8	137.4	137.1
EMPLOYMENT -	PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		116.4	116.9	116.8	115.9	115.5	115.1	114.5	113.9
Nongradual		116.7	117.4	117.3	116.1	115.6	115.3	114.3	113.8
Gradual		116.6	117.1	117.3	116.6	115.9	115.3	114.6	114.0
EMPLOYMENT -	PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline		228.1	232.8	236.9	240.4	243.3	246.2	248.9	251.4
Nongradual		228.3	233.2	237.3	241.1	243.8	246.6	249.1	251.5
Gradual		228.2	233.0	237.3	241.2	244.1	246.8	249.2	251.6
EMPLOYMENT -	CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline		224.8	224.3	222.6	221.0	220.6	220.6	220.4	220.1
Nongradual		225.3	224.4	223.0	222.5	221.9	221.8	221.3	220.9
Gradual		225.1	224.8	223.6	222.7	222.2	222.0	221.7	221.3
EMPLOYMENT -	PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
Nongradual		0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
Gradual		0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
EMPLOYMENT -	RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline		70.4	72.7	74.9	75.3	77.0	78.3	79.3	80.0
Nongradual		70.8	73.4	75.5	75.7	77.3	78.6	79.5	80.1
Gradual		70.6	73.0	75.5	76.2	77.7	78.8	79.6	80.4
EMPLOYMENT -	LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		6.0	5.2	4.7	4.3	4.2	4.0	3.8	3.6
Nongradual		6.0	5.5	4.9	4.3	4.5	3.8	3.7	3.5
Gradual		6.0	5.3	4.7	4.3	4.1	4.0	3.8	3.5
EMPLOYMENT -	STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline		98.1	100.2	102.4	103.3	103.2	102.9	102.2	101.2
Nongradual		98.3	100.7	102.7	103.3	103.1	102.6	101.6	100.6
Gradual		98.2	100.4	102.8	103.8	103.5	102.8	101.9	100.8
EMPLOYMENT -	PRIMARY METALS (THOUS. OF PERSONS)								
Baseline		76.4	77.0	77.7	76.8	76.6	76.2	75.4	74.4
Nongradual		76.9	77.9	78.2	77.1	76.8	76.3	75.2	74.1
Gradual		76.7	77.4	78.6	78.2	77.3	76.6	75.7	74.6
EMPLOYMENT -	FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		134.3	137.8	139.9	139.8	140.1	140.7	140.9	140.6
Nongradual		135.1	138.2	140.8	140.2	140.3	140.6	140.6	140.0
Gradual		134.7	138.4	141.1	141.5	141.0	141.6	141.1	140.5
EMPLOYMENT -	NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		219.5	224.9	230.1	235.4	241.8	247.0	249.9	251.0
Nongradual		221.5	228.0	232.9	237.8	243.9	246.9	251.3	252.0
Gradual		220.1	225.7	232.9	236.8	245.2	249.3	251.5	252.5
EMPLOYMENT -	ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		214.4	215.3	217.0	218.0	220.8	223.7	225.4	226.1
Nongradual		212.8	216.8	218.2	220.1	222.6	225.6	226.0	226.6
Gradual		214.8	215.8	219.4	221.9	224.0	225.9	227.0	227.5
EMPLOYMENT -	TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline		205.2	209.3	212.0	212.7	212.8	214.4	215.0	216.9
Nongradual		206.5	211.9	215.4	215.6	215.9	216.3	217.3	216.8
Gradual		205.7	210.1	215.1	216.8	216.1	216.7	217.9	216.8
EMPLOYMENT -	INSTRUMENTS (THOUS. OF PERSONS)								
Baseline		84.7	85.7	86.6	87.4	88.4	89.6	90.8	92.0
Nongradual		84.9	86.2	87.2	88.1	89.0	90.1	91.2	92.0
Gradual		84.7	85.8	87.0	88.4	89.5	90.5	91.4	92.3
EMPLOYMENT -	MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline		42.5	41.8	40.8	40.0	39.5	38.9	38.4	37.9
Nongradual		42.7	42.0	40.9	40.1	39.5	38.9	38.3	37.7
Gradual		42.6	41.9	40.9	40.2	39.6	39.0	38.4	37.8

TABLE 62

SUMMARY IMPACTS FOR EAST NORTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline	296.9	293.7	289.7	285.5	282.1	278.8	275.4	272.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	297.0	293.9	290.1	286.1	282.5	279.0	275.5	272.1
EMPLOYMENT - TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline	14.0	13.6	13.2	12.7	12.3	12.0	11.6	11.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	14.0	13.7	13.3	12.6	12.4	12.0	11.6	11.2
EMPLOYMENT - APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline	64.6	62.4	60.5	58.5	56.8	55.2	53.7	52.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	64.6	62.5	60.7	58.6	56.9	55.2	53.7	52.1
EMPLOYMENT - LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline	106.2	110.7	113.3	112.5	112.3	112.0	111.2	109.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	106.4	111.0	113.8	113.2	112.5	111.8	110.9	109.6
EMPLOYMENT - FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline	106.9	110.3	112.3	113.3	113.5	113.8	113.0	113.0
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	107.0	110.5	112.7	113.0	113.0	113.6	112.9	112.8
EMPLOYMENT - PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	162.0	161.7	160.6	159.1	158.3	157.6	156.6	155.5
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	162.2	162.0	161.3	160.0	158.7	157.9	156.7	155.7
EMPLOYMENT - PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline	322.0	326.0	329.5	332.2	334.0	335.9	337.7	339.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	322.1	326.3	330.1	333.3	335.1	336.7	338.3	339.7
EMPLOYMENT - CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline	223.6	223.3	222.2	221.3	220.7	220.3	219.5	218.5
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	223.8	223.6	223.0	222.6	221.9	221.1	220.3	219.2
EMPLOYMENT - PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	25.5	25.3	24.9	24.6	24.0	23.6	23.2	22.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	25.5	25.3	24.9	24.5	24.1	23.7	23.3	22.9
EMPLOYMENT - RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline	290.4	298.6	306.1	308.0	314.3	319.3	323.2	325.5
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	291.3	299.7	309.7	312.6	317.6	321.8	325.1	327.5
EMPLOYMENT - LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	18.4	16.0	14.5	13.2	12.8	12.3	11.7	11.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	18.4	16.0	14.3	13.2	12.7	12.2	11.7	11.0
EMPLOYMENT - STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline	108.7	110.2	111.8	112.2	112.1	111.7	111.1	110.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	108.6	110.5	112.2	112.8	112.5	111.7	110.8	109.7
EMPLOYMENT - PRIMARY METALS (THOUS. OF PERSONS)								
Baseline	278.2	279.3	280.3	275.5	272.9	270.7	266.8	262.4
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	279.0	280.3	283.3	280.3	276.4	272.6	267.9	263.1
EMPLOYMENT - FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	471.2	482.3	489.1	488.8	487.5	487.7	487.0	483.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	472.4	484.2	493.0	494.9	492.2	490.3	488.5	484.9
EMPLOYMENT - NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	600.2	612.8	623.3	636.1	648.0	659.6	665.1	666.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	600.6	612.4	627.8	643.3	657.7	666.7	669.6	670.3
EMPLOYMENT - ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	335.5	336.2	338.8	339.0	340.6	342.0	343.4	342.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	335.8	336.5	341.8	344.2	344.9	345.6	345.2	344.1
EMPLOYMENT - TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline	585.1	592.3	597.2	590.6	583.8	583.6	586.0	583.4
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	586.4	594.4	603.3	601.7	592.2	589.5	589.3	588.6
EMPLOYMENT - INSTRUMENTS (THOUS. OF PERSONS)								
Baseline	126.0	126.5	126.5	126.5	127.0	128.0	129.0	130.0
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	126.1	126.8	127.2	128.1	128.8	129.2	129.8	130.5
EMPLOYMENT - MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline	67.3	65.8	64.0	62.4	61.3	60.1	58.8	57.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	67.4	65.9	64.1	62.8	61.5	60.2	59.0	57.8

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TABLE 63

SUMMARY IMPACTS FOR EAST SOUTH CENTRAL

Region		1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT -	FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline		123.8	123.9	123.5	122.9	122.3	121.5	120.7	120.0
Nongradual		123.9	124.0	123.2	122.7	122.0	121.2	120.3	119.5
Gradual		123.6	124.0	123.6	123.1	122.2	121.4	120.6	119.8
EMPLOYMENT -	TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline		76.5	74.6	72.7	70.5	68.8	67.2	65.4	63.9
Nongradual		76.2	74.9	72.8	70.6	68.8	67.1	65.2	63.6
Gradual		76.7	74.7	73.0	70.9	69.0	67.1	65.4	63.6
EMPLOYMENT -	APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline		179.0	174.8	171.3	167.4	164.1	160.6	157.4	154.2
Nongradual		178.3	175.5	171.5	167.4	164.0	160.3	156.8	153.5
Gradual		179.2	175.1	171.9	168.1	164.2	160.5	157.1	153.7
EMPLOYMENT -	LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline		92.9	96.3	98.3	98.0	98.0	97.7	97.0	96.3
Nongradual		93.1	96.7	98.3	97.8	97.6	97.1	96.3	95.5
Gradual		93.1	96.6	98.5	98.3	97.8	97.1	96.2	95.5
EMPLOYMENT -	FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline		58.3	59.8	60.8	60.9	61.0	61.1	61.2	61.4
Nongradual		58.2	60.1	61.0	60.9	60.9	61.0	61.0	61.5
Gradual		58.4	59.9	61.0	61.2	61.2	61.1	61.1	61.2
EMPLOYMENT -	PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		64.5	64.7	64.5	64.0	63.8	63.7	63.5	63.2
Nongradual		64.3	64.6	64.3	64.0	63.8	63.5	63.3	63.5
Gradual		64.6	64.8	64.7	64.3	64.0	63.6	63.5	63.5
EMPLOYMENT -	PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline		79.8	81.0	82.1	82.9	83.6	84.1	84.6	85.0
Nongradual		79.8	81.1	81.9	82.9	83.2	83.7	84.1	84.5
Gradual		79.8	81.1	82.2	83.1	83.6	84.1	84.5	84.9
EMPLOYMENT -	CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline		73.6	73.0	72.1	71.5	71.3	71.3	71.1	71.1
Nongradual		73.5	73.1	71.5	70.9	70.8	70.2	70.4	70.4
Gradual		73.7	73.2	72.3	71.6	71.3	71.2	71.1	71.1
EMPLOYMENT -	PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		7.0	7.0	7.0	6.9	6.9	6.9	6.8	6.8
Nongradual		7.0	7.0	7.0	6.9	6.9	6.9	6.8	6.8
Gradual		7.0	7.0	7.0	7.0	6.9	6.9	6.8	6.8
EMPLOYMENT -	RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline		83.1	86.1	88.8	90.3	92.7	94.9	96.5	97.8
Nongradual		83.2	86.0	89.5	90.7	93.2	95.1	96.6	97.9
Gradual		83.4	86.4	89.9	91.5	93.4	95.3	96.9	98.2
EMPLOYMENT -	LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		8.1	7.9	6.9	6.3	6.1	5.8	5.5	5.1
Nongradual		8.1	7.9	6.9	6.3	6.1	5.7	5.3	5.0
Gradual		8.1	7.9	6.9	6.3	6.1	5.7	5.4	5.0
EMPLOYMENT -	STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline		39.4	39.9	40.5	40.8	41.0	41.0	40.9	40.7
Nongradual		39.5	40.1	40.5	40.8	41.0	40.8	40.7	40.3
Gradual		39.5	40.0	40.6	41.0	41.1	41.0	40.6	40.5
EMPLOYMENT -	PRIMARY METALS (THOUS. OF PERSONS)								
Baseline		62.4	63.0	63.5	62.9	62.9	62.8	62.2	61.7
Nongradual		62.8	63.2	63.9	63.1	63.1	62.8	62.1	61.5
Gradual		62.6	63.2	64.2	63.9	63.3	62.9	62.3	61.7
EMPLOYMENT -	FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		103.0	105.8	107.5	107.5	107.9	108.4	108.5	108.3
Nongradual		103.7	107.0	108.3	108.1	108.2	108.2	108.6	108.3
Gradual		103.3	106.3	108.2	108.7	108.5	108.5	108.5	108.3
EMPLOYMENT -	NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		109.6	112.3	114.7	117.3	120.5	123.4	125.2	126.2
Nongradual		110.2	113.9	115.7	118.0	121.1	123.9	125.5	126.3
Gradual		109.9	112.7	116.0	119.2	121.3	123.5	125.2	126.2
EMPLOYMENT -	ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		[illegible]	105.3	105.8	106.3	107.2	108.3	109.0	109.1
Nongradual		105.4	106.5	106.9	107.1	107.6	108.8	109.2	109.1
Gradual		105.3	105.5	107.0	108.1	108.3	108.9	109.4	109.4
EMPLOYMENT -	TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline		124.5	126.6	127.7	126.2	125.7	126.0	126.2	126.6
Nongradual		124.9	127.6	126.2	127.9	126.9	127.2	127.1	127.3
Gradual		124.7	127.0	128.8	128.3	127.7	127.6	127.5	127.7
EMPLOYMENT -	INSTRUMENTS (THOUS. OF PERSONS)								
Baseline		13.6	13.8	13.9	14.1	14.2	14.4	14.6	14.8
Nongradual		13.6	13.9	14.1	14.2	14.3	14.5	14.9	14.8
Gradual		13.6	13.8	14.0	14.2	14.4	14.5	14.7	14.9
EMPLOYMENT -	MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline		14.7	14.5	14.1	13.8	13.6	13.4	13.2	13.0
Nongradual		14.9	14.5	14.1	13.8	13.6	13.4	13.1	13.0
Gradual		14.7	14.5	14.1	13.9	13.6	13.4	13.2	13.0

SUMMARY IMPACTS FOR WEST NORTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline	219.5	219.7	218.9	217.2	215.4	213.6	211.7	209.8
Nongradual	219.7	220.2	218.3	217.5	215.5	213.6	211.5	208.5
Gradual	219.6	219.9	219.2	217.8	215.8	213.9	211.9	209.9
EMPLOYMENT - TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.3
Nongradual	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3
Gradual	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3
EMPLOYMENT - APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline	35.6	34.6	33.8	32.8	32.0	31.2	30.4	29.6
Nongradual	35.7	34.7	33.7	32.7	31.8	31.0	30.3	29.5
Gradual	35.6	34.6	33.8	32.9	31.9	31.1	30.5	29.5
EMPLOYMENT - LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline	42.0	43.9	45.1	44.9	44.7	44.6	44.4	43.9
Nongradual	42.1	44.1	45.1	44.7	44.5	44.2	44.0	43.2
Gradual	42.1	44.0	45.2	45.0	44.6	44.4	44.1	43.6
EMPLOYMENT - FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline	25.4	26.2	26.8	26.8	26.8	26.9	26.9	26.9
Nongradual	25.2	26.3	26.8	26.7	26.7	26.8	26.8	26.8
Gradual	25.4	26.3	26.8	26.9	26.9	26.8	26.8	26.8
EMPLOYMENT - PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	55.3	55.4	55.2	54.7	54.5	54.4	54.1	53.9
Nongradual	55.2	55.8	55.3	54.5	54.3	54.2	54.1	53.8
Gradual	55.4	55.5	55.4	55.0	54.6	54.4	54.2	53.9
EMPLOYMENT - PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline	154.9	157.1	158.9	160.1	160.9	161.8	162.4	162.9
Nongradual	155.0	157.3	159.2	160.4	161.1	161.8	162.3	162.8
Gradual	155.0	157.2	159.1	160.6	161.4	162.0	162.6	163.0
EMPLOYMENT - CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline	57.4	57.2	56.8	56.4	56.2	56.3	56.3	56.2
Nongradual	57.3	57.4	56.7	56.3	56.2	56.2	56.1	56.0
Gradual	57.5	57.3	56.9	56.7	56.4	56.4	56.4	56.3
EMPLOYMENT - PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	5.4	5.3	5.3	5.3	5.2	5.2	5.1	5.1
Nongradual	5.4	5.4	5.3	5.3	5.2	5.2	5.1	5.1
Gradual	5.4	5.3	5.3	5.3	5.2	5.2	5.1	5.1
EMPLOYMENT - RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline	33.7	34.8	35.8	36.0	36.8	37.5	38.0	38.3
Nongradual	33.6	35.1	36.0	36.2	36.9	37.3	38.0	38.3
Gradual	33.8	34.9	36.1	36.5	37.1	37.6	38.1	38.5
EMPLOYMENT - LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	11.2	9.8	8.7	8.0	7.8	7.5	7.1	6.8
Nongradual	11.5	9.8	8.6	8.0	7.8	7.3	7.0	6.6
Gradual	11.2	9.8	8.7	8.0	7.7	7.4	7.1	6.6
EMPLOYMENT - STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline	34.5	35.2	35.9	36.2	36.2	36.0	35.8	35.6
Nongradual	34.3	35.3	36.0	36.2	36.1	35.8	35.5	35.2
Gradual	34.6	35.3	36.1	36.4	36.2	36.0	35.7	35.4
EMPLOYMENT - PRIMARY METALS (THOUS. OF PERSONS)								
Baseline	30.9	31.3	31.7	31.5	31.4	31.4	31.1	30.8
Nongradual	31.3	31.4	31.6	31.5	31.4	31.3	31.0	30.6
Gradual	31.0	31.5	32.1	32.0	31.6	31.4	31.2	30.9
EMPLOYMENT - FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	109.8	112.9	114.8	115.9	115.9	115.6	115.4	114.9
Nongradual	110.5	113.0	115.2	115.5	115.3	115.3	115.3	114.7
Gradual	110.1	113.4	115.8	116.3	115.9	115.8	115.6	115.1
EMPLOYMENT - NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	191.4	195.3	198.2	201.6	205.5	209.1	210.9	211.1
Nongradual	193.1	198.0	200.6	203.5	207.3	210.6	213.6	213.0
Gradual	192.1	196.6	201.6	206.4	209.4	211.9	213.2	213.4
EMPLOYMENT - ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	99.6	98.4	98.3	97.6	98.1	98.5	98.4	98.0
Nongradual	99.9	98.5	98.5	98.5	98.5	99.0	98.2	98.1
Gradual	99.5	98.6	99.2	99.2	99.2	99.1	98.6	98.3
EMPLOYMENT - TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline	143.9	144.4	144.4	142.2	141.3	141.6	141.9	142.9
Nongradual	142.5	146.3	146.1	142.6	142.2	142.8	142.5	142.3
Gradual	144.2	145.0	145.9	142.8	143.4	143.1	143.2	143.3
EMPLOYMENT - INSTRUMENTS (THOUS. OF PERSONS)								
Baseline	51.7	52.2	52.7	53.1	53.7	54.4	55.1	55.8
Nongradual	51.6	52.5	53.1	53.5	53.1	54.6	55.3	55.8
Gradual	51.9	52.2	52.9	53.8	54.3	54.9	55.5	56.0
EMPLOYMENT - MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline	28.7	28.3	27.7	27.2	26.9	26.6	26.3	26.0
Nongradual	28.6	28.5	27.6	27.3	27.0	26.6	26.5	25.8
Gradual	28.7	28.3	27.8	27.4	27.0	26.6	26.3	25.9

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TABLE 65

SUMMARY IMPACTS FOR WEST SOUTH CENTRAL

Region		1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT -	FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline		190.6	190.0	189.2	187.8	186.2	184.5	182.5	180.4
Nongradual		190.6	190.6	190.3	188.9	187.0	185.0	183.9	180.9
Gradual		190.5	190.2	189.7	188.6	187.2	185.3	183.1	181.6
EMPLOYMENT -	TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline		7.0	6.8	6.7	6.5	6.3	6.1	5.9	5.7
Nongradual		7.0	6.9	6.7	6.5	6.3	6.1	5.9	5.7
Gradual		7.0	6.9	6.7	6.5	6.3	6.1	5.9	5.7
EMPLOYMENT -	APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline		86.6	84.5	82.8	80.7	78.8	76.9	75.1	73.3
Nongradual		86.6	85.0	83.5	81.1	79.0	77.0	75.1	73.3
Gradual		86.5	84.6	83.1	81.2	79.2	77.2	75.2	73.3
EMPLOYMENT -	LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline		70.9	74.0	75.7	75.1	74.7	74.3	73.7	72.7
Nongradual		71.1	74.5	76.1	75.1	74.6	73.9	73.1	72.0
Gradual		71.1	74.2	76.0	75.5	74.9	74.1	73.2	72.2
EMPLOYMENT -	FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline		26.6	27.2	27.6	27.5	27.5	27.3	27.2	27.0
Nongradual		26.5	27.5	27.9	27.9	27.7	27.5	27.3	27.1
Gradual		26.4	27.2	27.7	27.8	27.8	27.6	27.3	27.0
EMPLOYMENT -	PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		52.6	52.7	52.6	52.1	52.0	51.8	51.7	51.4
Nongradual		52.9	53.0	52.8	52.3	52.1	52.0	51.7	51.5
Gradual		52.7	52.8	52.8	52.5	52.2	52.0	51.7	51.3
EMPLOYMENT -	PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline		109.1	111.3	113.6	115.0	116.2	117.3	118.2	118.9
Nongradual		109.2	111.9	113.8	115.2	116.5	117.8	118.5	119.1
Gradual		109.1	111.4	113.6	115.4	116.7	117.6	118.5	119.2
EMPLOYMENT -	CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline		128.6	128.6	128.2	127.9	127.8	127.6	127.2	126.7
Nongradual		128.8	128.9	128.8	128.9	129.3	128.6	128.5	127.9
Gradual		128.5	128.9	128.9	129.1	129.2	129.6	128.4	127.8
EMPLOYMENT -	PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		43.5	43.3	43.1	42.9	42.2	41.8	41.6	41.0
Nongradual		43.5	43.3	43.1	42.7	42.3	41.8	41.5	41.0
Gradual		43.5	43.3	43.1	42.7	42.3	41.6	41.5	41.1
EMPLOYMENT -	RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline		71.8	74.2	76.3	76.8	78.5	79.8	80.6	81.2
Nongradual		72.3	75.0	77.5	77.6	79.3	80.6	81.3	81.6
Gradual		72.0	74.5	77.2	78.0	79.8	80.8	81.4	81.9
EMPLOYMENT -	LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		10.0	8.8	7.8	7.4	7.3	7.0	6.7	6.4
Nongradual		10.1	8.8	7.9	7.4	7.2	6.9	6.9	6.3
Gradual		10.1	8.8	7.9	7.4	7.2	6.9	6.7	6.3
EMPLOYMENT -	STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline		54.1	55.5	56.9	57.7	57.8	57.6	57.3	56.7
Nongradual		54.2	55.9	57.2	57.8	57.9	57.9	57.1	56.3
Gradual		54.2	55.7	57.1	58.0	58.1	57.7	57.1	56.5
EMPLOYMENT -	PRIMARY METALS (THOUS. OF PERSONS)								
Baseline		47.5	48.0	48.4	47.7	47.5	47.3	46.6	45.9
Nongradual		47.8	48.2	49.2	48.5	48.1	47.7	46.9	46.1
Gradual		47.7	48.2	49.0	48.7	48.4	47.6	47.0	46.2
EMPLOYMENT -	FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		131.7	135.1	137.2	136.6	136.9	136.8	136.2	135.5
Nongradual		132.1	136.2	138.5	138.5	138.3	138.2	137.5	136.5
Gradual		132.1	135.8	138.2	138.3	138.9	138.6	137.4	136.5
EMPLOYMENT -	NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		182.9	187.5	191.8	195.8	200.1	204.2	206.1	206.4
Nongradual		183.8	190.1	195.8	199.9	203.8	207.7	209.2	208.3
Gradual		183.2	188.0	194.1	200.1	205.4	208.9	209.8	209.9
EMPLOYMENT -	ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		132.0	132.5	132.8	132.8	133.9	135.0	135.5	135.3
Nongradual		132.2	133.8	134.9	134.9	135.6	136.5	136.6	136.3
Gradual		132.0	132.4	133.9	135.2	136.8	137.5	137.3	137.0
EMPLOYMENT -	TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline		143.4	144.2	144.1	141.0	140.4	141.0	141.2	141.7
Nongradual		143.9	145.3	146.1	143.0	142.3	142.7	142.7	143.0
Gradual		143.6	144.7	145.1	143.0	142.8	142.9	142.7	143.0
EMPLOYMENT -	INSTRUMENTS (THOUS. OF PERSONS)								
Baseline		42.5	42.8	43.1	43.3	43.7	44.2	44.7	45.2
Nongradual		42.6	43.0	43.4	43.7	44.0	44.5	44.6	45.2
Gradual		42.5	42.8	43.2	43.8	44.3	44.7	45.0	45.4
EMPLOYMENT -	MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline		21.3	20.9	20.6	20.3	20.1	19.8	19.5	19.3
Nongradual		21.3	21.0	20.7	20.4	20.1	19.8	19.5	19.3
Gradual		21.3	21.0	20.7	20.4	20.2	19.9	19.6	19.3

TABLE 66

SUMMARY IMPACTS FOR PACIFIC NORTHWEST

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline	93.6	93.6	93.0	92.2	91.4	90.6	89.8	89.1
Nongradual	93.7	93.9	93.1	92.5	91.5	90.5	89.7	88.8
Gradual	93.7	93.7	93.1	92.4	91.5	90.7	89.9	89.0
EMPLOYMENT - TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3
Nongradual	1.6	1.5	1.5	1.5	1.4	1.3	1.3	1.3
Gradual	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3
EMPLOYMENT - APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline	9.2	9.0	8.9	8.6	8.4	8.2	8.0	7.8
Nongradual	9.5	9.1	8.8	8.9	8.4	8.5	8.0	7.8
Gradual	9.2	9.1	8.9	8.7	8.4	8.2	8.0	7.8
EMPLOYMENT - LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline	124.8	127.7	127.9	124.8	123.9	122.9	121.6	120.2
Nongradual	125.1	128.3	128.0	125.5	123.6	122.3	120.8	119.5
Gradual	125.1	128.1	128.3	125.3	123.8	122.3	120.9	119.3
EMPLOYMENT - FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline	7.3	7.6	7.7	7.7	7.6	7.6	7.6	7.5
Nongradual	7.3	7.8	7.7	7.9	7.8	7.5	7.5	7.5
Gradual	7.3	7.6	7.7	7.7	7.6	7.6	7.5	7.5
EMPLOYMENT - PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	31.6	31.6	31.5	31.1	30.9	30.8	30.5	30.3
Nongradual	31.7	31.9	31.6	31.5	31.0	30.8	30.5	30.3
Gradual	31.7	31.7	31.6	31.3	31.0	30.8	30.5	30.3
EMPLOYMENT - PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline	45.7	46.6	47.3	47.9	48.3	48.6	49.0	49.2
Nongradual	45.7	46.7	47.5	47.9	48.2	48.5	48.9	49.1
Gradual	45.7	46.6	47.4	48.0	48.4	48.7	49.0	49.2
EMPLOYMENT - CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline	20.3	20.3	20.2	20.1	19.9	19.9	19.8	19.7
Nongradual	20.3	20.3	20.5	20.0	19.9	19.8	19.6	19.9
Gradual	20.3	20.3	20.2	20.2	20.0	19.9	19.8	19.7
EMPLOYMENT - PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
Nongradual	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
Gradual	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
EMPLOYMENT - RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline	5.0	5.2	5.4	5.5	5.7	5.8	6.0	6.1
Nongradual	5.1	5.3	5.5	5.5	5.7	5.8	6.0	6.1
Gradual	5.0	5.3	5.5	5.6	5.7	5.8	6.0	6.1
EMPLOYMENT - LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Nongradual	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Gradual	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
EMPLOYMENT - STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline	13.2	13.4	13.6	13.6	13.6	13.6	13.6	13.6
Nongradual	13.5	13.5	13.6	13.9	13.7	13.5	13.5	13.5
Gradual	13.2	13.4	13.6	13.7	13.6	13.6	13.5	13.5
EMPLOYMENT - PRIMARY METALS (THOUS. OF PERSONS)								
Baseline	26.0	26.1	26.3	25.9	25.7	25.6	25.3	25.0
Nongradual	26.1	26.5	26.5	26.0	25.9	25.5	25.3	24.9
Gradual	26.1	26.2	26.6	26.3	26.0	25.7	25.4	25.0
EMPLOYMENT - FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	26.2	26.7	27.0	26.7	26.6	26.7	26.6	26.6
Nongradual	26.3	26.9	27.2	26.8	26.7	26.7	26.9	26.5
Gradual	26.2	26.8	27.2	26.9	26.8	26.8	26.7	26.6
EMPLOYMENT - NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	43.6	44.8	45.9	47.0	48.4	49.6	50.4	50.8
Nongradual	44.2	45.9	46.4	47.5	48.7	49.9	50.9	51.0
Gradual	43.8	45.2	46.8	48.2	49.0	49.9	50.7	51.1
EMPLOYMENT - ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	36.4	36.6	36.9	37.0	37.4	37.9	38.3	38.4
Nongradual	36.6	37.0	37.1	37.5	37.6	38.1	38.3	38.5
Gradual	36.5	36.7	37.3	37.8	37.9	38.2	38.4	38.6
EMPLOYMENT - TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline	149.7	151.1	152.5	151.8	152.0	153.0	153.7	154.3
Nongradual	150.6	151.9	152.3	153.3	153.5	154.2	154.6	155.0
Gradual	150.1	151.7	154.1	154.7	154.3	154.6	155.1	155.7
EMPLOYMENT - INSTRUMENTS (THOUS. OF PERSONS)								
Baseline	24.4	24.7	24.9	25.1	25.4	25.7	26.1	26.4
Nongradual	24.5	24.9	25.1	25.3	25.5	25.6	26.1	26.4
Gradual	24.4	24.7	25.1	25.5	25.7	25.9	26.2	26.5
EMPLOYMENT - MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline	10.3	10.2	10.1	9.9	9.8	9.7	9.6	9.5
Nongradual	10.5	10.3	10.1	9.9	9.8	9.7	9.6	9.5
Gradual	10.3	10.3	10.1	10.0	9.9	9.7	9.6	9.5

TABLE 67

SUMMARY IMPACTS FOR PACIFIC SOUTHWEST

	Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT -	FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline		252.6	251.9	250.1	247.9	245.9	243.3	240.7	237.9
Nongradual		252.9	252.5	250.9	248.5	246.2	243.5	240.6	237.9
Gradual		252.7	252.1	250.6	248.7	246.6	243.9	241.0	238.1
EMPLOYMENT -	TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline		16.6	16.3	15.8	15.3	14.8	14.5	14.1	13.7
Nongradual		16.7	16.3	15.9	15.3	14.8	14.5	14.0	13.9
Gradual		16.7	16.3	15.9	15.3	14.9	14.5	14.1	13.7
EMPLOYMENT -	APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline		151.7	147.8	144.3	140.5	137.6	134.8	132.1	128.5
Nongradual		152.0	148.5	145.3	141.2	138.0	135.9	132.0	129.5
Gradual		151.9	148.0	144.8	141.3	138.2	135.1	132.2	129.3
EMPLOYMENT -	LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline		76.1	78.3	79.4	78.4	77.7	77.3	76.8	76.0
Nongradual		76.3	78.9	80.2	78.8	77.5	77.0	76.3	75.4
Gradual		76.3	78.6	80.0	79.0	78.2	77.2	76.1	75.2
EMPLOYMENT -	FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline		55.7	57.1	57.9	57.7	57.5	57.3	57.1	56.7
Nongradual		56.0	57.6	58.4	58.2	57.9	57.6	57.3	56.9
Gradual		55.8	57.3	58.1	58.1	57.9	57.5	57.1	56.7
EMPLOYMENT -	PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		44.5	44.6	44.5	44.3	44.3	44.3	44.2	44.1
Nongradual		44.6	44.9	44.7	44.5	44.5	44.3	44.5	44.0
Gradual		44.5	44.7	44.7	44.5	44.5	44.4	44.2	44.1
EMPLOYMENT -	PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline		214.5	219.4	223.8	227.4	230.4	233.3	235.9	238.3
Nongradual		214.7	220.1	224.9	228.9	231.4	234.7	236.6	239.0
Gradual		214.6	219.6	224.2	228.2	231.3	234.1	236.5	238.8
EMPLOYMENT -	CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline		88.3	88.1	87.5	87.0	86.6	86.1	85.4	84.7
Nongradual		88.5	88.5	87.8	87.2	86.9	86.4	85.4	84.9
Gradual		88.5	88.4	88.0	87.8	87.3	86.7	86.0	85.2
EMPLOYMENT -	PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		27.2	26.8	26.7	26.5	26.2	26.0	25.8	25.5
Nongradual		27.5	26.9	26.7	26.5	26.3	26.0	25.8	25.6
Gradual		27.2	26.9	26.7	26.5	26.3	26.0	25.8	25.6
EMPLOYMENT -	RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline		90.9	93.4	96.2	97.5	99.6	101.2	102.5	103.1
Nongradual		91.7	94.6	97.3	98.4	100.4	101.8	102.9	103.5
Gradual		91.2	93.8	97.6	99.2	100.8	102.1	103.3	103.9
EMPLOYMENT -	LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline		6.6	5.8	5.2	4.8	4.7	4.5	4.3	4.1
Nongradual		6.6	5.8	5.1	4.8	4.7	4.5	4.3	4.0
Gradual		6.6	5.8	5.2	4.8	4.6	4.5	4.3	4.0
EMPLOYMENT -	STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline		70.0	71.5	72.8	73.0	73.1	72.8	72.4	71.7
Nongradual		70.2	71.8	73.1	73.1	73.0	72.6	72.1	71.3
Gradual		70.1	71.7	73.1	73.4	73.3	72.8	72.2	71.4
EMPLOYMENT -	PRIMARY METALS (THOUS. OF PERSONS)								
Baseline		58.2	58.6	59.1	58.3	58.0	57.7	57.0	56.3
Nongradual		58.7	58.3	59.8	59.0	58.7	58.5	57.3	56.5
Gradual		58.4	58.9	59.9	59.4	58.9	58.3	57.4	56.6
EMPLOYMENT -	FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline		151.4	155.0	156.7	156.2	156.9	157.4	157.5	156.8
Nongradual		152.3	156.9	158.5	158.9	158.2	158.4	158.1	157.3
Gradual		151.9	155.7	158.2	158.5	158.9	158.8	158.3	157.6
EMPLOYMENT -	NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		273.4	280.1	287.1	294.6	301.6	307.6	310.8	311.6
Nongradual		275.6	284.7	293.0	300.6	307.4	313.0	315.8	316.1
Gradual		274.3	281.6	292.0	302.5	309.9	314.7	316.8	317.5
EMPLOYMENT -	ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline		314.7	315.2	317.7	320.6	325.6	330.5	333.6	335.4
Nongradual		316.4	319.1	322.4	325.3	330.1	332.4	336.6	338.0
Gradual		315.4	316.3	321.7	327.4	332.6	336.1	338.0	339.6
EMPLOYMENT -	TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline		301.9	302.8	303.5	299.5	298.6	299.2	299.2	299.4
Nongradual		303.3	306.1	307.4	303.2	302.1	302.2	301.7	301.5
Gradual		302.6	304.0	306.2	304.6	303.3	302.6	302.1	302.0
EMPLOYMENT -	INSTRUMENTS (THOUS. OF PERSONS)								
Baseline		228.1	229.3	230.4	231.7	233.8	236.4	238.1	241.3
Nongradual		228.4	230.8	232.3	233.4	235.4	237.9	239.6	241.3
Gradual		228.1	229.5	231.7	234.7	236.7	238.6	240.4	242.1
EMPLOYMENT -	MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline		38.2	38.1	36.9	35.9	35.2	34.6	34.0	33.4
Nongradual		39.5	38.3	37.0	36.0	35.3	34.9	33.8	33.2
Gradual		39.2	38.1	37.0	36.1	35.4	34.7	34.0	33.4

TABLE 68

SUMMARY IMPACTS FOR U.S. TOTAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
EMPLOYMENT - FOOD & PRODUCTS (THOUS. OF PERSONS)								
Baseline	1665.7	1659.0	1645.9	1629.0	1612.7	1596.0	1578.7	1560.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1666.4	1660.3	1648.5	1633.1	1615.9	1597.9	1579.7	1561.3
EMPLOYMENT - TEXTILE MILL PRODUCTS (THOUS. OF PERSONS)								
Baseline	653.4	637.1	620.2	598.7	581.8	565.8	549.7	534.0
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	654.6	638.8	623.2	602.4	583.4	566.1	549.4	533.3
EMPLOYMENT - APPAREL & PRODUCTS (THOUS. OF PERSONS)								
Baseline	994.6	967.3	943.2	915.3	891.7	869.1	847.5	826.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	995.6	968.7	946.3	919.7	893.8	869.7	847.0	824.3
EMPLOYMENT - LUMBER & WOOD PRODUCTS (THOUS. OF PERSONS)								
Baseline	733.3	761.2	775.5	768.0	764.9	762.0	756.5	748.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	734.8	763.6	778.4	771.4	765.3	758.8	751.7	743.4
EMPLOYMENT - FURNITURE & FIXTURES (THOUS. OF PERSONS)								
Baseline	468.0	481.9	489.8	489.5	489.4	489.6	489.4	488.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	468.5	482.7	491.9	492.6	491.7	490.3	488.9	487.9
EMPLOYMENT - PAPER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	687.3	687.3	684.0	677.8	674.7	672.0	668.0	663.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	688.2	688.7	686.7	681.5	676.4	672.6	668.4	664.2
EMPLOYMENT - PRINTING & PUBLISHING (THOUS. OF PERSONS)								
Baseline	1544.7	1570.3	1592.7	1610.0	1623.3	1636.2	1648.2	1658.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1545.4	1571.8	1595.4	1615.3	1628.4	1639.6	1650.2	1660.2
EMPLOYMENT - CHEMICALS & PRODUCTS (THOUS. OF PERSONS)								
Baseline	1101.6	1100.1	1094.3	1089.6	1087.0	1085.1	1081.6	1077.8
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1102.6	1102.8	1098.9	1097.1	1093.5	1090.5	1086.8	1082.8
EMPLOYMENT - PETROLEUM & COAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	140.1	138.8	137.6	135.9	134.4	132.7	131.1	129.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	140.2	138.9	137.8	136.3	134.9	133.0	131.4	129.9
EMPLOYMENT - RUBBER & PLASTICS (THOUS. OF PERSONS)								
Baseline	810.7	834.9	857.7	865.0	883.8	898.6	910.0	917.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	813.4	838.0	867.7	877.6	892.8	905.3	915.2	922.7
EMPLOYMENT - LEATHER & PRODUCTS (THOUS. OF PERSONS)								
Baseline	95.3	82.8	73.5	67.7	65.6	62.7	59.7	56.8
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	95.4	82.9	73.5	67.6	65.2	62.3	59.3	55.7
EMPLOYMENT - STONE, CLAY, & GLASS (THOUS. OF PERSONS)								
Baseline	520.6	529.3	538.0	540.4	540.0	537.7	534.0	529.0
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	521.2	530.5	540.0	543.3	541.4	537.3	532.5	526.9
EMPLOYMENT - PRIMARY METALS (THOUS. OF PERSONS)								
Baseline	723.8	726.5	729.9	718.2	713.2	708.1	698.3	688.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	726.0	729.6	737.8	730.6	721.2	712.4	701.1	689.9
EMPLOYMENT - FABRICATED METAL PRODUCTS (THOUS. OF PERSONS)								
Baseline	1393.3	1427.4	1447.2	1443.1	1441.7	1442.7	1438.4	1430.4
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1396.1	1432.4	1457.9	1460.2	1454.8	1449.9	1443.2	1433.3
EMPLOYMENT - NONELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	2028.0	2071.7	2112.4	2154.3	2202.8	2245.5	2266.6	2272.2
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	2032.5	2078.5	2138.0	2196.7	2241.7	2274.1	2288.6	2293.1
EMPLOYMENT - ELECTRICAL MACHINERY (THOUS. OF PERSONS)								
Baseline	1574.0	1575.9	1585.7	1589.7	1604.4	1619.9	1627.2	1628.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1576.5	1579.2	1602.5	1618.3	1629.7	1638.1	1640.4	1640.0
EMPLOYMENT - TRANSPORTATION EQUIPMENT (THOUS. OF PERSONS)								
Baseline	1890.3	1903.0	1910.7	1888.1	1876.9	1880.9	1883.5	1885.1
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1893.3	1908.8	1927.2	1920.6	1904.6	1900.8	1900.4	1900.6
EMPLOYMENT - INSTRUMENTS (THOUS. OF PERSONS)								
Baseline	877.6	882.1	885.8	889.3	895.2	903.7	912.1	919.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	877.8	882.7	890.3	900.3	906.4	912.2	917.7	923.2
EMPLOYMENT - MISCELLANEOUS (THOUS. OF PERSONS)								
Baseline	341.6	336.2	325.0	317.4	311.9	306.4	301.4	296.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	341.8	334.6	325.9	319.1	313.3	307.2	301.5	295.9

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TABLE 69

SUMMARY IMPACTS FOR NEW ENGLAND

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	322.1	341.5	360.2	380.4	403.3	428.1	454.9	482.8
Nongradual	322.3	341.7	361.5	381.7	404.9	430.1	457.3	485.7
Gradual	322.2	341.7	360.9	381.9	405.3	430.6	456.0	486.6
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	182.5	193.5	204.8	217.2	231.3	246.8	263.3	280.4
Nongradual	182.7	194.1	205.9	218.0	232.5	248.1	264.7	283.1
Gradual	182.6	193.7	205.4	218.4	232.8	248.5	265.3	282.8
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Nongradual	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Gradual	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	35.1	36.2	37.7	39.3	41.1	43.1	45.2	47.5
Nongradual	35.1	36.3	37.7	39.5	41.3	43.4	45.9	47.9
Gradual	35.1	36.2	37.7	39.4	41.3	43.4	45.6	47.9
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	28.4	29.6	30.8	32.3	34.0	35.9	37.9	40.0
Nongradual	28.4	29.6	30.9	32.4	34.1	36.1	38.1	40.3
Gradual	28.4	29.6	30.8	32.3	34.1	36.1	38.1	40.3
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	12.3	12.8	13.4	14.0	14.8	15.5	16.4	17.2
Nongradual	12.3	12.8	13.5	14.1	14.8	15.6	16.5	17.4
Gradual	12.3	12.8	13.4	14.1	14.8	15.6	16.5	17.4
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	38.9	43.6	45.2	46.0	48.6	50.0	51.6	53.4
Nongradual	39.1	43.5	44.6	45.5	47.8	49.2	50.9	52.5
Gradual	39.0	43.4	45.2	45.9	47.8	49.1	50.7	52.6
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	6575.2	6668.8	6748.4	6802.6	6875.2	6954.1	7024.8	7081.7
Nongradual	6563.0	6683.0	6760.1	6806.1	6875.6	6950.5	7017.0	7021.2
Gradual	6578.6	6674.4	6760.7	6822.4	6890.1	6961.3	7027.0	7062.0
LABOR FORCE (THOUSANDS)								
Baseline	7121.1	7176.2	7234.7	7290.7	7357.9	7431.3	7502.8	7563.4
Nongradual	7121.9	7159.5	7235.4	7288.9	7354.1	7430.7	7489.7	7528.5
Gradual	7121.6	7177.5	7236.3	7293.5	7359.9	7431.1	7501.6	7560.9
UNEMPLOYMENT RATE (%)								
Baseline	7.7	7.1	6.7	6.7	6.6	6.4	6.4	6.4
Nongradual	7.9	6.9	6.9	6.6	6.5	6.3	6.3	6.3
Gradual	7.6	7.0	6.6	6.5	6.4	6.3	6.3	6.3
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	13.3	13.3	13.4	13.5	13.6	13.6	13.7	13.8
Nongradual	13.3	13.3	13.3	13.5	13.5	13.6	13.7	13.7
Gradual	13.3	13.3	13.4	13.5	13.5	13.6	13.7	13.7

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TABLE 70

SUMMARY IMPACTS FOR MIDDLE ATLANTIC

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	905.0	952.7	1004.7	1060.0	1118.8	1180.9	1248.2	1319.3
Nongradual	905.4	954.4	1007.3	1063.5	1123.5	1189.3	1255.0	1327.6
Gradual	905.3	953.1	1006.0	1063.0	1123.1	1186.7	1255.7	1326.8
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	516.6	543.2	574.7	607.6	643.1	681.2	721.7	764.7
Nongradual	517.2	544.7	576.6	609.8	646.0	684.6	725.6	769.6
Gradual	516.8	543.5	575.7	609.9	646.2	684.9	726.4	770.5
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Nongradual	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Gradual	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	35.2	36.3	37.7	39.3	41.0	42.9	44.9	47.0
Nongradual	35.5	36.3	37.7	39.5	41.3	43.1	45.3	47.3
Gradual	35.3	36.3	37.7	39.4	41.2	43.1	45.2	47.4
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	30.0	30.9	32.2	33.7	35.5	37.3	39.3	41.4
Nongradual	30.0	31.0	32.3	33.6	35.7	37.5	39.5	41.7
Gradual	30.0	30.9	32.2	33.8	35.6	37.5	39.5	41.7
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	12.5	13.0	13.6	14.2	14.9	15.7	16.5	17.4
Nongradual	12.5	13.0	13.6	14.3	15.0	15.8	16.6	17.5
Gradual	12.5	13.0	13.6	14.3	15.0	15.8	16.6	17.6
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	97.2	105.8	108.8	107.1	108.3	108.1	108.3	109.2
Nongradual	97.6	105.9	108.2	105.9	106.9	106.6	106.8	107.6
Gradual	97.4	105.8	108.9	106.8	107.1	106.5	106.9	106.0
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	17522.7	17799.1	18052.0	18220.0	18377.0	18524.1	18666.6	18792.1
Nongradual	17536.5	17833.5	18083.0	18258.2	18386.1	18521.4	18653.8	18772.3
Gradual	17529.4	17809.4	18076.1	18259.6	18406.1	18535.4	18665.9	18786.7
LABOR FORCE (THOUSANDS)								
Baseline	18740.3	18960.5	19208.6	19436.8	19604.3	19738.0	19876.4	20003.8
Nongradual	18720.0	18963.3	19209.6	19433.5	19592.3	19730.2	19862.2	19981.0
Gradual	18740.4	18961.0	19206.8	19433.7	19599.1	19729.6	19864.6	19991.2
UNEMPLOYMENT RATE (%)								
Baseline	6.5	6.1	6.0	6.3	6.3	6.2	6.1	6.1
Nongradual	6.5	6.0	5.8	6.1	6.2	6.1	6.1	6.1
Gradual	6.5	6.1	5.9	6.0	6.1	6.1	6.0	6.0
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4
Nongradual	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4
Gradual	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4

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TABLE 71

SUMMARY IMPACTS FOR SOUTH ATLANTIC

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	920.2	980.2	1042.2	1108.3	1178.3	1252.6	1333.7	1420.5
Nongradual	921.1	982.6	1046.0	1119.1	1182.3	1256.9	1343.3	1430.7
Gradual	920.6	981.3	1044.8	1113.2	1184.6	1260.1	1343.0	1432.1
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	537.7	572.6	611.3	652.7	696.3	742.5	792.3	846.0
Nongradual	538.5	574.9	614.2	656.1	700.5	747.3	797.9	852.5
Gradual	538.1	573.6	613.4	656.6	700.9	747.6	798.6	853.7
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	7.1	7.4	7.8	7.8	7.8	7.8	7.8	7.8
Nongradual	7.1	7.2	7.6	7.9	7.9	7.9	7.9	7.8
Gradual	7.1	7.4	7.7	7.9	7.9	7.9	7.9	7.8
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	28.1	29.1	30.3	31.7	33.3	35.0	36.9	38.9
Nongradual	28.1	29.2	30.5	31.6	33.5	35.3	37.2	39.3
Gradual	28.1	29.1	30.4	31.8	33.5	35.2	37.2	39.2
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	26.3	27.3	28.5	30.0	31.5	33.1	34.8	36.7
Nongradual	26.3	27.3	28.6	30.1	31.6	33.3	35.1	37.0
Gradual	26.3	27.3	28.6	30.0	31.6	33.3	35.1	37.0
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	10.6	11.1	11.6	12.3	12.9	13.7	14.4	15.3
Nongradual	10.6	11.1	11.7	12.3	13.0	13.8	14.8	15.5
Gradual	10.6	11.1	11.6	12.3	13.0	13.8	14.8	15.4
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	328.4	350.1	358.2	355.3	354.6	348.2	344.3	342.8
Nongradual	329.8	350.4	356.1	351.9	351.0	342.5	340.1	338.1
Gradual	329.0	350.0	358.6	354.1	350.6	342.9	339.5	338.7
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	21522.2	21998.8	22429.9	22772.8	23137.1	23485.7	23828.1	24156.2
Nongradual	21535.6	22025.5	22476.5	22805.9	23155.4	23492.5	23825.3	24153.9
Gradual	21531.8	22017.2	22469.3	22836.2	23187.5	23512.2	23837.7	24158.6
LABOR FORCE (THOUSANDS)								
Baseline	22831.9	23253.7	23687.4	24088.4	24463.4	24829.9	25202.9	25566.2
Nongradual	22835.3	23262.5	23700.1	24098.1	24467.2	24831.0	25200.6	25561.3
Gradual	22833.4	23258.0	23695.7	24104.9	24477.2	24835.1	25201.0	25561.2
UNEMPLOYMENT RATE (%)								
Baseline	5.7	5.4	5.3	5.5	5.4	5.4	5.5	5.5
Nongradual	5.7	5.5	5.5	5.5	5.5	5.3	5.5	5.5
Gradual	5.7	5.3	5.2	5.3	5.3	5.3	5.4	5.5
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	45.6	46.1	46.6	47.1	47.6	48.1	48.6	49.0
Nongradual	45.6	46.1	46.6	47.1	47.6	48.1	48.6	49.0
Gradual	45.6	46.1	46.6	47.1	47.6	48.1	48.5	49.0

TABLE 72

SUMMARY IMPACTS FOR EAST NORTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	893.9	947.6	1000.9	1055.9	1115.3	1179.0	1247.6	1319.9
Nongradual	892.9	950.5	1004.8	1060.5	1120.6	1185.3	1254.8	1328.4
Gradual	894.2	948.1	1002.8	1060.6	1121.4	1186.0	1256.0	1330.4
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	527.1	558.9	592.6	627.6	665.1	705.0	747.5	792.1
Nongradual	526.1	561.4	595.7	630.8	668.5	709.9	751.8	797.0
Gradual	527.5	559.2	594.3	631.5	669.6	709.7	752.8	798.8
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	6.3	6.6	7.0	7.2	7.3	7.3	7.3	7.2
Nongradual	6.3	6.6	7.0	7.2	7.3	7.3	7.3	7.2
Gradual	6.3	6.6	7.0	7.2	7.3	7.3	7.3	7.2
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	34.6	35.7	37.0	38.6	40.3	42.1	44.1	46.2
Nongradual	34.6	35.7	37.0	38.7	40.5	42.3	44.4	46.5
Gradual	34.6	35.7	37.0	38.7	40.5	42.3	44.4	46.6
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	25.0	26.0	27.2	28.6	30.0	31.6	33.3	35.1
Nongradual	25.1	26.1	27.3	28.6	30.2	31.8	33.5	35.4
Gradual	25.0	26.0	27.2	28.6	30.1	31.8	33.5	35.4
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	13.8	14.4	15.0	15.7	16.4	17.3	18.1	18.9
Nongradual	13.8	14.4	15.0	15.8	16.5	17.4	18.3	19.2
Gradual	13.8	14.4	15.0	15.9	16.5	17.4	18.3	19.2
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	188.0	188.9	190.3	187.5	183.3	176.1	170.6	166.7
Nongradual	188.7	189.1	189.7	185.3	180.9	173.2	168.5	165.3
Gradual	188.3	188.9	190.5	186.9	181.3	173.6	168.4	164.8
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	20605.2	20976.1	21295.1	21508.2	21708.8	21896.0	22089.2	22273.3
Nongradual	20636.3	21019.1	21346.6	21543.5	21729.8	21903.0	22080.3	22257.6
Gradual	20614.5	21009.5	21331.9	21573.6	21761.2	21922.8	22097.1	22273.5
LABOR FORCE (THOUSANDS)								
Baseline	21889.6	22202.7	22497.1	22752.3	22957.0	23142.4	23337.6	23526.6
Nongradual	21893.7	22215.3	22511.0	22762.0	22960.6	23140.0	23329.0	23515.0
Gradual	21891.1	22205.0	22500.9	22762.0	22966.9	23146.6	23334.6	23519.3
UNEMPLOYMENT RATE (%)								
Baseline	5.9	5.4	5.3	5.5	5.4	5.4	5.3	5.3
Nongradual	5.8	5.2	5.3	5.4	5.2	5.3	5.3	5.3
Gradual	5.8	5.4	5.2	5.2	5.2	5.3	5.3	5.3
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	42.8	43.0	43.1	43.3	43.4	43.5	43.6	43.8
Nongradual	42.8	43.0	43.1	43.3	43.4	43.5	43.6	43.8
Gradual	42.8	43.0	43.1	43.3	43.4	43.5	43.6	43.8

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TABLE 73

SUMMARY IMPACTS FOR EAST SOUTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	264.6	280.3	296.0	312.5	331.0	351.1	372.7	395.6
Nongradual	264.9	281.1	296.9	313.5	332.2	352.5	373.5	397.6
Gradual	264.7	280.6	296.7	313.8	332.5	352.8	374.7	398.2
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	150.5	158.4	168.1	178.3	190.8	203.3	216.6	230.7
Nongradual	150.8	160.1	169.8	179.9	191.9	204.2	217.9	231.9
Gradual	150.6	159.7	169.6	180.4	191.9	204.4	217.8	232.4
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	3.6	3.9	4.2	4.3	4.4	4.4	4.4	4.3
Nongradual	3.6	3.9	4.2	4.3	4.4	4.4	4.4	4.3
Gradual	3.6	3.9	4.2	4.3	4.4	4.4	4.4	4.3
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	25.6	26.5	27.6	28.8	30.3	31.8	33.4	35.1
Nongradual	25.9	26.5	27.9	28.9	30.4	32.0	33.9	35.4
Gradual	25.6	26.5	27.6	28.9	30.4	31.9	33.6	35.5
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	22.7	23.5	24.6	25.9	27.3	28.8	30.5	32.3
Nongradual	22.7	23.9	24.7	25.9	27.4	29.0	30.7	32.5
Gradual	22.7	23.6	24.7	25.9	27.4	29.0	30.7	32.6
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	10.8	11.2	11.7	12.3	13.0	13.7	14.4	15.2
Nongradual	10.8	11.5	11.8	12.4	13.0	13.8	14.5	15.3
Gradual	10.8	11.2	11.8	12.4	13.0	13.8	14.5	15.3
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	64.6	70.8	73.5	73.1	73.1	71.7	70.8	70.5
Nongradual	64.9	70.9	73.0	72.3	72.2	70.6	69.8	69.3
Gradual	64.7	70.8	73.6	72.8	72.1	70.4	69.5	69.2
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	6979.9	7094.4	7191.3	7262.6	7338.8	7410.2	7478.1	7540.1
Nongradual	6985.5	7108.1	7205.9	7272.9	7347.0	7410.8	7473.9	7532.7
Gradual	6983.3	7099.9	7203.6	7283.3	7351.8	7412.3	7473.7	7532.9
LABOR FORCE (THOUSANDS)								
Baseline	7481.7	7569.4	7660.5	7753.1	7835.0	7904.5	7973.3	8039.2
Nongradual	7480.4	7568.6	7661.3	7753.6	7832.1	7902.6	7970.1	8034.9
Gradual	7481.2	7569.3	7659.6	7753.3	7834.0	7901.1	7968.2	8033.0
UNEMPLOYMENT RATE (%)								
Baseline	6.7	6.3	6.1	6.3	6.3	6.3	6.2	6.2
Nongradual	6.9	6.1	5.9	6.1	6.3	6.2	6.2	6.2
Gradual	6.7	6.2	6.0	6.1	6.2	6.2	6.2	6.2
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	15.5	15.6	15.7	15.7	15.8	15.9	15.9	16.0
Nongradual	15.5	15.6	15.7	15.7	15.8	15.9	15.9	16.0
Gradual	15.5	15.6	15.7	15.7	15.8	15.9	15.9	16.0

TABLE 74

SUMMARY IMPACTS FOR WEST NORTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	363.5	384.7	406.1	427.0	450.3	476.9	505.4	535.4
Nongradual	363.9	385.6	407.5	428.8	452.3	478.7	508.2	538.9
Gradual	363.6	385.1	407.1	429.0	452.9	479.8	509.0	540.0
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	204.4	216.5	229.4	242.6	257.1	273.6	291.1	309.4
Nongradual	204.9	217.2	230.9	243.9	258.3	275.1	292.9	311.5
Gradual	204.6	216.8	230.4	244.2	258.9	275.4	293.3	312.3
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	11.8	12.1	12.5	12.6	12.7	12.8	12.8	12.6
Nongradual	11.8	12.1	12.5	12.6	12.7	12.8	12.8	12.6
Gradual	11.8	12.1	12.5	12.6	12.7	12.8	12.8	12.6
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	30.6	31.5	32.7	34.1	35.7	37.4	39.2	41.2
Nongradual	30.9	31.9	32.6	34.3	35.6	37.9	39.5	41.5
Gradual	30.6	31.5	32.8	34.2	35.9	37.6	39.5	41.5
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	23.2	24.1	25.2	26.4	27.7	29.2	30.7	32.4
Nongradual	23.5	24.1	25.3	26.5	27.6	29.5	31.0	32.7
Gradual	23.2	24.1	25.2	26.5	27.8	29.3	31.0	32.7
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	12.0	12.5	13.0	13.7	14.4	15.1	15.9	16.7
Nongradual	12.0	12.5	13.1	13.7	14.4	15.2	16.0	16.9
Gradual	12.0	12.5	13.0	13.7	14.4	15.2	16.0	16.9
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	85.8	91.4	93.1	91.1	89.2	85.6	82.7	80.5
Nongradual	86.1	91.4	93.5	90.1	88.5	82.9	81.6	78.9
Gradual	86.0	91.4	93.2	90.8	88.2	82.4	81.5	79.5
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	9243.2	9397.0	9526.9	9615.9	9710.2	9800.5	9888.6	9963.7
Nongradual	9251.0	9413.9	9538.9	9632.6	9711.1	9785.2	9828.6	9951.5
Gradual	9246.8	9403.7	9538.9	9636.4	9726.8	9807.8	9869.9	9962.3
LABOR FORCE (THOUSANDS)								
Baseline	9688.4	9832.2	9966.3	10079.7	10183.0	10280.0	10380.3	10477.0
Nongradual	9691.3	9836.0	9969.5	10081.1	10180.3	10253.9	10374.0	10467.6
Gradual	9689.8	9835.4	9969.8	10088.7	10189.5	10262.1	10378.9	10473.5
UNEMPLOYMENT RATE (%)								
Baseline	4.8	4.4	4.4	4.6	4.6	4.7	4.7	4.8
Nongradual	4.5	4.3	4.3	4.6	4.6	4.6	4.6	4.8
Gradual	4.6	4.4	4.3	4.5	4.5	4.6	4.7	4.9
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	18.0	18.1	18.2	18.2	18.3	18.4	18.4	18.5
Nongradual	18.0	18.1	18.2	18.2	18.3	18.4	18.4	18.5
Gradual	18.0	18.1	18.2	18.2	18.3	18.4	18.4	18.5

TABLE 75

SUMMARY IMPACTS FOR WEST SOUTH CENTRAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	513.5	547.8	581.7	616.8	655.8	697.3	741.9	789.0
Nongradual	513.3	546.5	582.6	621.3	661.3	703.2	749.3	792.5
Gradual	513.9	548.8	584.0	620.8	661.5	704.4	750.3	796.8
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	297.2	317.0	338.0	359.5	383.5	409.2	436.0	465.0
Nongradual	296.4	316.5	340.4	362.9	387.5	413.5	441.8	471.1
Gradual	297.5	317.9	339.8	362.7	387.8	412.4	442.4	472.2
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	8.3	8.4	8.6	8.6	8.7	8.8	8.8	8.7
Nongradual	8.3	8.2	8.6	8.6	8.7	8.8	8.8	8.7
Gradual	8.3	8.4	8.6	8.6	8.7	8.8	8.8	8.7
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	30.8	31.8	33.1	34.6	36.1	37.8	39.6	41.5
Nongradual	30.8	31.8	33.1	34.7	36.3	38.1	39.8	41.8
Gradual	30.8	31.8	33.1	34.6	36.3	38.1	40.0	41.9
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	25.5	26.4	27.6	28.9	30.6	32.3	34.1	36.0
Nongradual	25.5	26.5	27.6	29.1	30.7	32.5	34.4	36.2
Gradual	25.5	26.4	27.6	29.0	30.7	32.5	34.4	36.4
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	11.5	12.0	12.6	13.2	13.8	14.6	15.3	16.2
Nongradual	11.5	12.0	12.6	13.3	13.8	14.6	15.5	16.3
Gradual	11.5	12.0	12.6	13.2	13.9	14.7	15.5	16.3
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	109.3	135.5	142.1	136.3	136.5	135.0	134.4	134.3
Nongradual	109.2	135.4	141.3	135.0	135.3	134.1	133.6	133.2
Gradual	109.5	135.5	142.2	135.9	135.0	133.3	133.1	133.3
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	12732.9	13006.0	13243.9	13433.1	13617.2	13782.3	13936.8	14075.3
Nongradual	12743.5	13032.2	13281.3	13470.4	13652.5	13815.0	13962.1	14098.2
Gradual	12738.4	13019.0	13272.3	13480.2	13669.2	13828.1	13976.5	14113.4
LABOR FORCE (THOUSANDS)								
Baseline	13503.5	13757.8	13987.8	14203.1	14395.1	14569.9	14740.6	14902.9
Nongradual	13502.2	13766.5	14005.8	14225.9	14421.0	14598.3	14768.6	14930.9
Gradual	13504.2	13761.9	13997.9	14223.5	14425.1	14601.5	14772.0	14935.2
UNEMPLOYMENT RATE (%)								
Baseline	5.7	5.5	5.3	5.4	5.4	5.4	5.5	5.6
Nongradual	5.9	5.3	5.3	5.3	5.3	5.3	5.2	5.6
Gradual	5.7	5.4	5.2	5.2	5.2	5.3	5.4	5.5
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	27.9	28.2	28.5	28.8	29.1	29.3	29.6	29.8
Nongradual	27.9	28.2	28.5	28.8	29.1	29.3	29.6	29.8
Gradual	27.9	28.2	28.5	28.8	29.1	29.3	29.6	29.8

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TABLE 76

SUMMARY IMPACTS FOR PACIFIC NORTHWEST

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	223.4	237.3	251.9	266.9	283.0	300.3	319.0	339.0
Nongradual	223.2	236.1	252.0	266.6	282.0	301.0	320.0	340.9
Gradual	223.5	237.6	252.5	266.1	282.4	301.8	320.8	341.4
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	126.6	134.4	143.4	152.9	162.9	173.2	184.5	196.6
Nongradual	126.4	132.0	143.1	153.1	163.2	172.0	183.5	196.9
Gradual	126.7	134.8	143.9	153.8	163.6	174.1	185.6	196.2
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	4.4	4.5	4.6	4.6	4.6	4.7	4.7	4.6
Nongradual	4.2	4.5	4.8	4.6	4.6	4.7	4.7	4.6
Gradual	4.4	4.5	4.6	4.6	4.6	4.7	4.7	4.6
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	31.9	32.9	34.3	35.9	37.6	39.4	41.4	43.4
Nongradual	31.8	33.0	32.3	36.0	37.8	38.7	41.7	43.8
Gradual	31.9	32.9	34.3	36.0	37.8	39.7	41.7	43.8
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	25.8	26.7	28.0	29.4	31.0	32.6	34.4	36.3
Nongradual	25.8	26.6	28.1	29.5	31.1	32.8	34.7	36.9
Gradual	25.8	26.8	28.0	29.5	31.1	32.8	34.7	36.7
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	13.4	14.0	14.6	15.3	16.0	16.8	17.7	18.6
Nongradual	13.2	14.0	14.8	15.3	16.1	16.8	17.6	18.8
Gradual	13.4	14.0	14.6	15.3	16.1	16.9	17.8	18.8
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	70.7	76.7	79.7	78.1	77.2	74.8	72.9	71.2
Nongradual	70.6	76.6	79.5	77.3	76.5	74.0	71.3	70.9
Gradual	70.8	76.7	79.8	77.9	76.3	73.6	71.7	70.3
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	5286.9	5377.3	5457.0	5511.6	5566.9	5621.6	5670.0	5728.3
Nongradual	5290.0	5389.3	5466.9	5517.6	5565.3	5618.5	5671.0	5719.2
Gradual	5287.3	5381.6	5466.1	5526.8	5575.6	5624.9	5676.2	5724.2
LABOR FORCE (THOUSANDS)								
Baseline	5601.0	5685.0	5763.5	5833.9	5895.1	5955.0	6016.2	6076.3
Nongradual	5600.9	5688.2	5762.5	5836.0	5892.0	5951.0	6010.5	6069.8
Gradual	5601.4	5686.2	5765.5	5837.8	5898.6	5955.4	6013.2	6071.0
UNEMPLOYMENT RATE (%)								
Baseline	5.6	5.4	5.3	5.5	5.6	5.6	5.6	5.7
Nongradual	5.6	5.3	5.5	5.5	5.6	5.6	5.6	5.6
Gradual	5.6	5.4	5.2	5.3	5.5	5.5	5.6	5.7
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8
Nongradual	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8
Gradual	11.2	11.3	11.4	11.5	11.6	11.6	11.7	11.8

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TABLE 77

SUMMARY IMPACTS FOR PACIFIC SOUTHWEST

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	973.0	1037.6	1102.8	1171.0	1245.5	1326.4	1413.8	1506.1
Nongradual	974.3	1041.3	1108.7	1178.2	1255.9	1337.6	1426.9	1521.3
Gradual	973.7	1039.6	1107.1	1178.6	1256.1	1339.1	1428.7	1524.0
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	574.8	612.6	653.5	696.4	742.8	792.9	846.0	902.3
Nongradual	575.9	615.8	658.3	702.3	749.5	800.5	852.5	912.8
Gradual	575.4	614.4	657.1	702.8	750.8	801.7	855.9	914.0
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	8.5	8.8	9.2	9.4	9.4	9.4	9.4	9.3
Nongradual	8.5	8.8	9.2	9.4	9.4	9.4	9.4	9.3
Gradual	8.5	8.8	9.2	9.4	9.4	9.4	9.4	9.3
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	34.6	35.8	37.2	38.8	40.5	42.4	44.4	46.5
Nongradual	34.9	35.8	37.5	38.9	40.7	42.7	44.8	46.9
Gradual	34.6	35.8	37.2	38.9	40.7	42.7	44.8	47.0
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	29.5	30.7	32.0	33.5	35.1	36.9	38.8	40.9
Nongradual	29.5	30.7	32.1	33.6	35.3	37.3	39.1	41.3
Gradual	29.5	30.7	32.1	33.6	35.3	37.2	39.1	41.3
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	12.5	13.0	13.6	14.2	14.9	15.7	16.5	17.4
Nongradual	12.5	13.0	13.6	14.3	15.0	15.8	16.7	17.6
Gradual	12.5	13.0	13.6	14.3	15.0	15.8	16.7	17.6
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	238.3	270.9	288.4	294.3	303.3	304.1	306.2	310.1
Nongradual	239.1	271.3	286.7	291.5	301.0	302.5	305.2	309.6
Gradual	238.7	270.9	288.7	293.4	300.2	300.1	302.8	306.9
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	20407.5	20884.9	21315.6	21663.3	22017.8	22373.3	22716.1	23029.8
Nongradual	20429.1	20936.2	21373.5	21715.1	22063.0	22411.3	22745.0	23051.6
Gradual	20418.2	20908.8	21366.7	21747.2	22099.6	22438.7	22769.3	23079.1
LABOR FORCE (THOUSANDS)								
Baseline	21778.9	22217.5	22652.9	23070.2	23455.4	23822.3	24187.2	24534.0
Nongradual	21782.6	22231.4	22674.3	23095.5	23482.6	23850.3	24215.6	24560.5
Gradual	21780.5	22224.6	22668.9	23101.2	23494.1	23860.6	24223.9	24570.8
UNEMPLOYMENT RATE (%)								
Baseline	6.3	6.0	5.9	6.1	6.1	6.1	6.1	6.1
Nongradual	6.2	5.8	5.7	6.0	6.0	6.0	6.1	6.1
Gradual	6.3	5.9	5.7	5.9	5.9	6.0	6.0	6.1
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	44.6	45.1	45.6	46.2	46.7	47.2	47.7	48.2
Nongradual	44.6	45.1	45.6	46.2	46.7	47.2	47.7	48.2
Gradual	44.6	45.1	45.6	46.2	46.7	47.3	47.8	48.2

TABLE 78

SUMMARY IMPACTS FOR U.S. TOTAL

Region	1993	1994	1995	1996	1997	1998	1999	2000
PERSONAL INCOME ($ BILLIONS)								
Baseline	5379.2	5709.9	6046.5	6398.9	6781.6	7192.6	7637.3	8107.6
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	5381.8	5715.9	6061.8	6429.3	6821.8	7241.2	7696.1	8180.2
WAGE & SALARY DISBURSEMENTS ($ BILLIONS)								
Baseline	3117.3	3308.2	3517.0	3725.6	3972.6	4227.6	4492.6	4787.9
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	3119.8	3313.4	3529.8	3760.3	4002.4	4260.7	4538.2	4834.8
FARM PROPRIETORS' INCOME ($ BILLIONS)								
Baseline	52.5	54.4	56.7	57.4	57.8	58.0	57.8	57.2
Nongradual	52.5	[illegible]	[illegible]	[illegible]	[illegible]	58.1	[illegible]	[illegible]
Gradual	52.5	54.4	56.7	57.3	57.8	58.1	57.9	57.3
AVERAGE ANNUAL WAGE - MANUFACTURING ($ THOUSANDS)								
Baseline	32.2	33.3	34.6	36.1	37.8	39.5	41.5	43.5
Nongradual	[illegible]	33.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	32.2	33.3	34.6	36.2	37.9	39.8	41.8	43.9
AVERAGE ANNUAL WAGE - NON-MANUFACTURING ($ THOUSANDS)								
Baseline	26.8	27.8	29.0	30.4	32.0	33.7	35.5	37.4
Nongradual	[illegible]	27.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	26.8	27.8	29.1	30.5	32.1	33.9	35.8	37.8
AVERAGE HOURLY EARNINGS - MANUFACTURING($)								
Baseline	12.3	12.8	13.3	14.0	14.7	15.5	16.3	17.1
Nongradual	12.3	12.8	[illegible]	14.0	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	12.3	12.8	13.3	14.0	14.8	15.6	16.4	17.3
PRIVATE HOUSING STARTS (THOUSANDS)								
Baseline	1221.6	1333.6	1379.3	1368.8	1373.8	1353.7	1341.7	1338.7
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	1223.4	1333.4	1360.8	1364.5	1356.6	1333.9	1324.2	1323.1
RESIDENT EMPLOYMENT (THOUS. OF PERSONS)								
Baseline	120873.6	123222.4	125258.1	126790.1	128346.5	129867.8	131306.2	132640.4
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	120928.5	123323.4	125485.6	127168.2	128667.8	130043.4	131413.4	132712.7
LABOR FORCE (THOUSANDS)								
Baseline	128636.3	130655.0	132656.8	134509.3	136166.1	137674.4	139217.1	140690.4
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	128643.7	130679.1	132701.3	134598.9	136244.3	137743.2	139257.5	140716.1
UNEMPLOYMENT RATE (%)								
Baseline	6.0	5.7	5.6	5.7	5.7	5.7	5.7	5.7
Nongradual	6.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gradual	6.0	5.6	5.4	5.5	5.6	5.6	5.6	5.7
RESIDENT POPULATION (MILLIONS OF PERSONS)								
Baseline	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3
Nongradual	[illegible]	[illegible]	[illegible]	[illegible]	264.1	265.8	[illegible]	269.3
Gradual	256.4	258.4	260.4	262.2	264.1	265.8	267.6	269.3

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Impacts on Worker Assistance Programs

TABLE 79

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA MERGED INTO EDWAA EXPENDITURES ($Millions)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	531.549	519.838	524.317	555.507	584.829	614.962	648.871	686.404
$Difference.........	-3.263	-5.436	-13.279	-21.569	-17.228	-10.140	-5.532	-3.994
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	37.411	35.553	34.557	35.224	36.263	37.523	39.210	41.075
$Difference.........	-0.198	-0.302	-0.779	-1.265	-1.001	-0.595	-0.332	-0.239
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	83.432	81.390	82.159	87.752	92.085	95.378	99.152	103.307
$Difference.........	-0.454	-0.691	-1.883	-3.213	-2.652	-1.654	-0.932	-0.619
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	89.679	87.696	89.113	94.844	99.551	105.656	112.779	120.294
$Difference.........	-0.562	-0.986	-2.260	-3.581	-2.829	-1.701	-0.944	-0.636
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	87.953	84.489	84.943	88.845	93.070	97.744	102.364	106.847
$Difference.........	-0.538	-0.781	-2.398	-4.163	-3.277	-1.804	-0.890	-0.639
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	34.297	33.172	33.134	35.137	37.222	39.043	40.909	42.969
$Difference.........	-0.269	-0.397	-0.956	-1.529	-1.079	-0.435	-0.058	0.163
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	30.519	30.511	31.310	33.666	35.717	37.884	40.447	43.837
$Difference.........	-0.151	-0.242	-0.616	-1.012	-0.773	-0.419	-0.229	-0.191
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	52.762	52.506	52.723	55.550	58.347	61.771	65.806	70.480
$Difference.........	-0.328	-0.626	-1.331	-2.018	-1.706	-1.137	-0.680	-0.498
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	21.637	21.530	21.758	23.254	24.934	26.395	27.878	29.747
$Difference.........	-0.136	-0.219	-0.509	-0.843	-0.580	-0.234	-0.095	-0.099
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	93.858	92.989	94.620	101.234	107.639	113.569	120.326	127.929
$Difference.........	-0.626	-1.191	-2.548	-3.944	-3.331	-2.161	-1.371	-1.155
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 80

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA AND EDWAA EXPENDITURES ($Millions)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	759.863	743.122	749.525	794.112	836.027	879.104	927.578	981.232
$Difference.........	-4.665	-7.770	-18.983	-30.834	-24.628	-14.496	-7.909	-5.710
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	53.479	50.824	49.400	50.353	51.838	53.639	56.052	58.718
$Difference.........	-0.284	-0.432	-1.113	-1.808	-1.432	-0.850	-0.475	-0.342
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	119.268	116.349	117.448	125.443	131.638	136.345	141.740	147.679
$Difference.........	-0.649	-0.988	-2.692	-4.593	-3.791	-2.364	-1.333	-0.884
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	128.198	125.364	127.389	135.582	142.310	151.037	161.220	171.964
$Difference.........	-0.804	-1.410	-3.231	-5.119	-4.043	-2.432	-1.350	-0.909
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	125.731	120.779	121.428	127.007	133.047	139.727	146.331	152.740
$Difference.........	-0.769	-1.117	-3.429	-5.952	-4.684	-2.579	-1.272	-0.914
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	49.029	47.420	47.366	50.229	53.210	55.813	58.481	61.425
$Difference.........	-0.385	-0.567	-1.367	-2.186	-1.542	-0.622	-0.084	0.233
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	43.627	43.616	44.759	48.127	51.059	54.156	57.820	62.666
$Difference.........	-0.216	-0.346	-0.881	-1.447	-1.105	-0.598	-0.327	-0.273
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	75.425	75.059	75.369	79.411	83.408	88.304	94.071	100.753
$Difference.........	-0.469	-0.895	-1.902	-2.885	-2.439	-1.625	-0.972	-0.712
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	30.931	30.778	31.104	33.242	35.644	37.732	39.852	42.524
$Difference.........	-0.195	-0.313	-0.727	-1.205	-0.829	-0.335	-0.136	-0.141
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	134.172	132.930	135.261	144.717	153.873	162.350	172.010	182.878
$Difference.........	-0.895	-1.702	-3.643	-5.638	-4.762	-3.090	-1.960	-1.650
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 81

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
EDWAA ONLY EXPENDITURES ($Millions)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	490.190	479.390	483.520	512.283	539.323	567.112	598.383	632.995
$Difference.........	-3.009	-5.013	-12.246	-19.891	-15.887	-9.351	-5.102	-3.683
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	34.500	32.787	31.868	32.483	33.441	34.603	36.159	37.879
$Difference.........	-0.183	-0.278	-0.718	-1.167	-0.923	-0.548	-0.307	-0.221
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	76.940	75.057	75.766	80.924	84.920	87.957	91.437	95.268
$Difference.........	-0.419	-0.637	-1.737	-2.963	-2.446	-1.525	-0.860	-0.570
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	82.701	80.872	82.179	87.465	91.805	97.435	104.003	110.934
$Difference.........	-0.519	-0.910	-2.084	-3.302	-2.608	-1.569	-0.871	-0.587
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	81.110	77.915	78.334	81.932	85.829	90.138	94.399	98.533
$Difference.........	-0.496	-0.721	-2.212	-3.839	-3.022	-1.663	-0.820	-0.590
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	31.629	30.591	30.556	32.403	34.326	36.005	37.726	39.625
$Difference.........	-0.248	-0.366	-0.882	-1.410	-0.995	-0.401	-0.054	0.151
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	28.144	28.137	28.874	31.047	32.938	34.936	37.300	40.426
$Difference.........	-0.139	-0.223	-0.568	-0.933	-0.713	-0.386	-0.211	-0.176
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	48.657	48.420	48.621	51.228	53.807	56.965	60.686	64.996
$Difference.........	-0.302	-0.577	-1.227	-1.861	-1.573	-1.049	-0.627	-0.459
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	19.953	19.855	20.065	21.445	22.994	24.341	25.709	27.432
$Difference.........	-0.126	-0.202	-0.469	-0.778	-0.535	-0.216	-0.088	-0.091
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	86.554	85.754	87.257	93.357	99.264	104.732	110.964	117.975
$Difference.........	-0.577	-1.098	-2.350	-3.637	-3.072	-1.993	-1.264	-1.065
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 82

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA ONLY EXPENDITURES ($Millions)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	269.674	263.732	266.005	281.828	296.704	311.992	329.195	348.237
$Difference.........	-1.656	-2.758	-6.737	-10.943	-8.740	-5.144	-2.807	-2.026
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	18.980	18.037	17.532	17.870	18.397	19.037	19.893	20.839
$Difference.........	-0.101	-0.153	-0.395	-0.642	-0.508	-0.302	-0.169	-0.121
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	42.328	41.292	41.682	44.520	46.718	48.389	50.303	52.411
$Difference.........	-0.230	-0.351	-0.955	-1.630	-1.345	-0.839	-0.473	-0.314
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	45.497	44.491	45.210	48.118	50.506	53.603	57.217	61.030
$Difference.........	-0.285	-0.500	-1.147	-1.817	-1.435	-0.863	-0.479	-0.323
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	44.622	42.864	43.095	45.074	47.218	49.589	51.933	54.207
$Difference.........	-0.273	-0.396	-1.217	-2.112	-1.662	-0.915	-0.451	-0.324
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	17.400	16.829	16.810	17.826	18.884	19.808	20.755	21.800
$Difference.........	-0.136	-0.201	-0.485	-0.776	-0.547	-0.221	-0.030	0.083
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	15.483	15.479	15.885	17.080	18.121	19.220	20.520	22.240
$Difference.........	-0.077	-0.123	-0.313	-0.513	-0.392	-0.212	-0.116	-0.097
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	26.768	26.638	26.748	28.183	29.601	31.339	33.386	35.757
$Difference.........	-0.166	-0.318	-0.675	-1.024	-0.866	-0.577	-0.345	-0.253
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	10.977	10.923	11.039	11.798	12.650	13.391	14.144	15.092
$Difference.........	-0.069	-0.111	-0.258	-0.428	-0.294	-0.119	-0.048	-0.050
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	47.617	47.177	48.004	51.360	54.609	57.618	61.046	64.903
$Difference.........	-0.318	-0.604	-1.293	-2.001	-1.690	-1.097	-0.696	-0.586
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 83

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA MERGED INTO EDWAA EXPENDITURES ($Millions)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	527.787	510.339	523.211	566.714	595.046	621.616	655.959	697.202
$Difference.........	-7.025	-14.935	-14.385	-10.363	-7.010	-3.487	1.555	6.803
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	37.194	34.997	34.538	35.944	36.924	37.991	39.811	41.922
$Difference.........	-0.415	-0.858	-0.797	-0.545	-0.340	-0.127	0.269	0.607
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	82.839	79.846	81.862	89.348	93.651	96.546	100.536	105.268
$Difference.........	-1.047	-2.235	-2.180	-1.616	-1.086	-0.486	0.452	1.343
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	89.050	86.145	88.906	96.606	101.139	106.744	114.012	122.192
$Difference.........	-1.191	-2.538	-2.466	-1.819	-1.240	-0.613	0.289	1.261
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	87.084	82.344	84.605	91.105	95.001	98.789	103.336	108.508
$Difference.........	-1.407	-2.927	-2.736	-1.903	-1.346	-0.758	0.083	1.022
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	34.094	32.544	33.095	35.955	37.836	39.280	41.145	43.328
$Difference.........	-0.472	-1.025	-0.995	-0.711	-0.465	-0.198	0.177	0.522
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	30.338	30.050	31.282	34.261	36.225	38.183	40.862	44.493
$Difference.........	-0.332	-0.703	-0.644	-0.417	-0.266	-0.119	0.186	0.465
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	52.448	51.749	52.651	56.478	59.316	62.561	66.573	71.503
$Difference.........	-0.641	-1.383	-1.403	-1.090	-0.737	-0.347	0.087	0.525
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	21.485	21.128	21.754	23.832	25.375	26.580	28.195	30.290
$Difference.........	-0.289	-0.621	-0.513	-0.265	-0.139	-0.049	0.222	0.444
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	93.253	91.535	94.517	103.182	109.579	114.942	121.593	129.698
$Difference.........	-1.231	-2.645	-2.651	-1.996	-1.392	-0.789	-0.104	0.614
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 84

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA AND EDWAA EXPENDITURES ($Millions)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	754.485	729.542	747.944	810.132	850.634	888.615	937.709	996.667
$Difference.........	-10.043	-21.350	-20.564	-14.814	-10.021	-4.985	2.223	9.725
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	53.170	50.029	49.373	51.382	52.784	54.308	56.911	59.928
$Difference.........	-0.593	-1.227	-1.140	-0.779	-0.486	-0.181	0.384	0.868
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	118.421	114.142	117.024	127.726	133.877	138.015	143.719	150.483
$Difference.........	-1.496	-3.195	-3.116	-2.311	-1.552	-0.695	0.646	1.920
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	127.300	123.146	127.094	138.101	144.581	152.593	162.982	174.676
$Difference.........	-1.702	-3.628	-3.526	-2.600	-1.772	-0.877	0.413	1.803
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	124.489	117.713	120.945	130.237	135.806	141.222	147.721	155.115
$Difference.........	-2.012	-4.184	-3.911	-2.721	-1.924	-1.084	0.118	1.461
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	48.738	46.523	47.310	51.399	54.088	56.151	58.818	61.938
$Difference.........	-0.675	-1.465	-1.423	-1.016	-0.665	-0.283	0.253	0.746
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	43.369	42.957	44.719	48.978	51.784	54.584	58.413	63.604
$Difference.........	-0.475	-1.005	-0.921	-0.596	-0.381	-0.170	0.266	0.665
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	74.976	73.976	75.266	80.737	84.794	89.433	95.168	102.215
$Difference.........	-0.917	-1.978	-2.005	-1.559	-1.053	-0.497	0.124	0.750
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	30.713	30.203	31.098	34.069	36.274	37.997	40.305	43.300
$Difference.........	-0.413	-0.888	-0.733	-0.379	-0.199	-0.069	0.317	0.635
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	133.307	130.852	135.114	147.502	156.646	164.312	173.820	185.406
$Difference.........	-1.760	-3.781	-3.789	-2.853	-1.989	-1.128	-0.149	0.878
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 85

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
EDWAA ONLY EXPENDITURES ($Millions)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	486.720	470.630	482.500	522.618	548.746	573.248	604.919	642.953
$Difference.........	-6.479	-13.773	-13.266	-9.556	-6.465	-3.216	1.434	6.274
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	34.300	32.274	31.850	33.147	34.051	35.034	36.713	38.660
$Difference.........	-0.383	-0.791	-0.735	-0.503	-0.313	-0.117	0.248	0.560
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	76.394	73.633	75.493	82.396	86.364	89.034	92.713	97.077
$Difference.........	-0.965	-2.061	-2.010	-1.491	-1.002	-0.448	0.417	1.238
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	82.121	79.442	81.988	89.089	93.270	98.438	105.140	112.684
$Difference.........	-1.098	-2.340	-2.275	-1.677	-1.143	-0.566	0.266	1.163
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	80.308	75.937	78.022	84.016	87.609	91.102	95.295	100.065
$Difference.........	-1.298	-2.699	-2.523	-1.755	-1.241	-0.699	0.076	0.942
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	31.441	30.012	30.520	33.158	34.892	36.223	37.943	39.956
$Difference.........	-0.436	-0.945	-0.918	-0.656	-0.429	-0.183	0.163	0.481
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	27.977	27.712	28.848	31.596	33.406	35.212	37.682	41.031
$Difference.........	-0.306	-0.649	-0.594	-0.384	-0.245	-0.110	0.171	0.429
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	48.367	47.722	48.554	52.084	54.701	57.693	61.393	65.939
$Difference.........	-0.591	-1.276	-1.293	-1.006	-0.679	-0.320	0.080	0.484
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	19.813	19.484	20.061	21.978	23.400	24.512	26.001	27.933
$Difference.........	-0.266	-0.573	-0.473	-0.244	-0.128	-0.045	0.204	0.410
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	85.997	84.413	87.163	95.154	101.053	105.998	112.132	119.606
$Difference.........	-1.135	-2.439	-2.444	-1.841	-1.283	-0.727	-0.096	0.566
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 86

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA ONLY EXPENDITURES ($Millions)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	267.765	258.913	265.443	287.514	301.888	315.367	332.791	353.715
$Difference.........	-3.564	-7.577	-7.298	-5.257	-3.557	-1.769	0.789	3.452
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	18.870	17.755	17.522	18.235	18.733	19.274	20.197	21.268
$Difference.........	-0.211	-0.435	-0.405	-0.277	-0.172	-0.064	0.136	0.308
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	42.027	40.509	41.532	45.330	47.512	48.981	51.005	53.406
$Difference.........	-0.531	-1.134	-1.106	-0.820	-0.551	-0.247	0.229	0.681
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	45.178	43.704	45.105	49.012	51.312	54.155	57.842	61.992
$Difference.........	-0.604	-1.287	-1.251	-0.923	-0.629	-0.311	0.146	0.640
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	44.181	41.776	42.923	46.221	48.197	50.119	52.426	55.050
$Difference.........	-0.714	-1.485	-1.388	-0.966	-0.683	-0.385	0.042	0.518
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	17.297	16.511	16.790	18.241	19.196	19.928	20.874	21.982
$Difference.........	-0.240	-0.520	-0.505	-0.361	-0.236	-0.101	0.090	0.265
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	15.391	15.245	15.871	17.382	18.378	19.372	20.731	22.573
$Difference.........	-0.169	-0.357	-0.327	-0.211	-0.135	-0.060	0.094	0.236
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	26.609	26.254	26.712	28.653	30.093	31.739	33.775	36.276
$Difference.........	-0.325	-0.702	-0.712	-0.553	-0.374	-0.176	0.044	0.266
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	10.900	10.719	11.036	12.091	12.873	13.485	14.304	15.367
$Difference.........	-0.146	-0.315	-0.260	-0.134	-0.071	-0.025	0.112	0.225
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	47.310	46.439	47.952	52.348	55.593	58.314	61.688	65.800
$Difference.........	-0.624	-1.342	-1.345	-1.013	-0.706	-0.400	-0.053	0.312
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 87

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA MERGED INTO EDWAA PARTICIPANTS (Thousands)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	334.686	319.071	312.985	322.304	328.630	333.975	340.236	347.143
$Difference.........	-2.055	-3.336	-7.927	-12.514	-9.681	-5.507	-2.901	-2.020
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	23.555	21.822	20.628	20.437	20.377	20.378	20.560	20.773
$Difference.........	-0.125	-0.185	-0.465	-0.734	-0.563	-0.323	-0.174	-0.121
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	52.532	49.956	49.044	50.913	51.745	51.798	51.990	52.246
$Difference.........	-0.286	-0.424	-1.124	-1.864	-1.490	-0.898	-0.489	-0.313
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	56.466	53.827	53.195	55.028	55.940	57.380	59.135	60.838
$Difference.........	-0.354	-0.605	-1.349	-2.078	-1.589	-0.924	-0.495	-0.322
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	55.379	51.859	50.706	51.548	52.299	53.083	53.674	54.037
$Difference.........	-0.339	-0.480	-1.432	-2.416	-1.841	-0.980	-0.466	-0.323
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	21.595	20.361	19.779	20.386	20.916	21.204	21.451	21.731
$Difference.........	-0.169	-0.243	-0.571	-0.887	-0.606	-0.236	-0.031	0.083
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	19.216	18.727	18.690	19.533	20.071	20.574	21.208	22.170
$Difference.........	-0.095	-0.149	-0.368	-0.587	-0.435	-0.227	-0.120	-0.097
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	33.221	32.228	31.472	32.230	32.786	33.547	34.505	35.645
$Difference.........	-0.206	-0.384	-0.794	-1.171	-0.959	-0.618	-0.357	-0.252
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	13.624	13.215	12.988	13.492	14.011	14.335	14.618	15.044
$Difference.........	-0.086	-0.134	-0.304	-0.489	-0.326	-0.127	-0.050	-0.050
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	59.097	57.076	56.482	58.736	60.485	61.677	63.093	64.699
$Difference.........	-0.394	-0.731	-1.521	-2.288	-1.872	-1.174	-0.719	-0.584
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 88

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA AND EDWAA PARTICIPANTS (Thousands)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	343.366	327.347	321.103	330.663	337.154	342.637	349.060	356.147
$Difference.........	-2.108	-3.423	-8.133	-12.839	-9.932	-5.650	-2.976	-2.072
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	24.166	22.388	21.163	20.967	20.905	20.906	21.093	21.312
$Difference.........	-0.128	-0.190	-0.477	-0.753	-0.577	-0.331	-0.179	-0.124
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	53.895	51.252	50.316	52.234	53.087	53.142	53.339	53.602
$Difference.........	-0.293	-0.435	-1.153	-1.913	-1.529	-0.922	-0.502	-0.321
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	57.930	55.223	54.574	56.456	57.391	58.868	60.669	62.416
$Difference.........	-0.363	-0.621	-1.384	-2.131	-1.631	-0.948	-0.508	-0.330
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	56.815	53.204	52.021	52.885	53.655	54.460	55.066	55.438
$Difference.........	-0.348	-0.492	-1.469	-2.478	-1.889	-1.005	-0.479	-0.332
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	22.155	20.889	20.292	20.915	21.459	21.753	22.007	22.295
$Difference.........	-0.174	-0.250	-0.585	-0.910	-0.622	-0.242	-0.031	0.085
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	19.714	19.213	19.175	20.040	20.591	21.108	21.758	22.745
$Difference.........	-0.098	-0.153	-0.377	-0.602	-0.446	-0.233	-0.123	-0.099
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	34.083	33.063	32.289	33.066	33.637	34.417	35.400	36.569
$Difference.........	-0.212	-0.394	-0.815	-1.201	-0.984	-0.634	-0.366	-0.258
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	13.977	13.558	13.325	13.842	14.374	14.706	14.997	15.434
$Difference.........	-0.088	-0.138	-0.312	-0.502	-0.334	-0.130	-0.051	-0.051
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	60.629	58.556	57.947	60.259	62.054	63.277	64.730	66.377
$Difference.........	-0.405	-0.750	-1.560	-2.348	-1.920	-1.204	-0.738	-0.599
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 89

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
EDWAA ONLY PARTICIPANTS (Thousands)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	308.644	294.244	288.632	297.225	303.060	307.989	313.762	320.132
$Difference.........	-1.895	-3.077	-7.310	-11.541	-8.928	-5.078	-2.675	-1.863
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	21.722	20.124	19.023	18.847	18.791	18.792	18.960	19.157
$Difference.........	-0.115	-0.171	-0.429	-0.677	-0.519	-0.298	-0.161	-0.112
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	48.445	46.069	45.228	46.952	47.719	47.768	47.945	48.181
$Difference.........	-0.264	-0.391	-1.037	-1.719	-1.374	-0.828	-0.451	-0.288
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	52.072	49.639	49.056	50.747	51.587	52.915	54.534	56.104
$Difference.........	-0.326	-0.558	-1.244	-1.916	-1.466	-0.852	-0.457	-0.297
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	51.070	47.823	46.760	47.537	48.229	48.952	49.498	49.832
$Difference.........	-0.312	-0.442	-1.320	-2.228	-1.698	-0.903	-0.430	-0.298
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	19.915	18.776	18.240	18.800	19.289	19.554	19.782	20.040
$Difference.........	-0.156	-0.224	-0.526	-0.818	-0.559	-0.218	-0.028	0.076
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	17.721	17.270	17.236	18.013	18.509	18.973	19.558	20.445
$Difference.........	-0.088	-0.137	-0.339	-0.541	-0.401	-0.210	-0.111	-0.089
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	30.636	29.720	29.024	29.722	30.235	30.937	31.821	32.871
$Difference.........	-0.190	-0.354	-0.732	-1.080	-0.884	-0.569	-0.329	-0.232
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	12.564	12.187	11.978	12.442	12.921	13.219	13.480	13.874
$Difference.........	-0.079	-0.124	-0.280	-0.451	-0.300	-0.117	-0.046	-0.046
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	54.498	52.635	52.087	54.165	55.779	56.878	58.184	59.665
$Difference.........	-0.364	-0.674	-1.403	-2.110	-1.726	-1.083	-0.663	-0.538
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 90

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA ONLY PARTICIPANTS (Thousands)
GRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	34.722	33.102	32.471	33.438	34.094	34.649	35.298	36.015
$Difference.........	-0.213	-0.346	-0.822	-1.298	-1.004	-0.571	-0.301	-0.210
%Difference.........	-0.610	-1.035	-2.470	-3.738	-2.862	-1.622	-0.845	-0.579
New England	2.444	2.264	2.140	2.120	2.114	2.114	2.133	2.155
$Difference.........	-0.013	-0.019	-0.048	-0.076	-0.058	-0.034	-0.018	-0.013
%Difference.........	-0.528	-0.842	-2.203	-3.467	-2.687	-1.560	-0.841	-0.579
Middle Atlantic	5.450	5.183	5.088	5.282	5.368	5.374	5.394	5.420
$Difference.........	-0.030	-0.044	-0.117	-0.193	-0.155	-0.093	-0.051	-0.032
%Difference.........	-0.541	-0.842	-2.241	-3.532	-2.799	-1.705	-0.932	-0.595
South Atlantic	5.858	5.584	5.519	5.709	5.804	5.953	6.135	6.312
$Difference.........	-0.037	-0.063	-0.140	-0.216	-0.165	-0.096	-0.051	-0.033
%Difference.........	-0.623	-1.112	-2.473	-3.638	-2.763	-1.585	-0.830	-0.526
East North Central	5.745	5.380	5.261	5.348	5.426	5.507	5.569	5.606
$Difference.........	-0.035	-0.050	-0.149	-0.251	-0.191	-0.102	-0.048	-0.034
%Difference.........	-0.608	-0.916	-2.746	-4.476	-3.401	-1.812	-0.861	-0.595
East South Central	2.240	2.112	2.052	2.115	2.170	2.200	2.225	2.255
$Difference.........	-0.018	-0.025	-0.059	-0.092	-0.063	-0.025	-0.003	0.009
%Difference.........	-0.778	-1.182	-2.804	-4.171	-2.817	-1.102	-0.143	0.381
West North Central	1.994	1.943	1.939	2.026	2.082	2.134	2.200	2.300
$Difference.........	-0.010	-0.015	-0.038	-0.061	-0.045	-0.024	-0.012	-0.010
%Difference.........	-0.493	-0.788	-1.930	-2.918	-2.119	-1.093	-0.563	-0.434
West South Central	3.447	3.343	3.265	3.344	3.401	3.480	3.580	3.698
$Difference.........	-0.021	-0.040	-0.082	-0.121	-0.099	-0.064	-0.037	-0.026
%Difference.........	-0.617	-1.178	-2.462	-3.506	-2.841	-1.807	-1.023	-0.702
Pacific Northwest	1.413	1.371	1.347	1.400	1.454	1.487	1.517	1.561
$Difference.........	-0.009	-0.014	-0.032	-0.051	-0.034	-0.013	-0.005	-0.005
%Difference.........	-0.625	-1.006	-2.285	-3.499	-2.272	-0.879	-0.340	-0.332
Pacific Southwest	6.131	5.921	5.860	6.094	6.275	6.399	6.546	6.712
$Difference.........	-0.041	-0.076	-0.158	-0.237	-0.194	-0.122	-0.075	-0.061
%Difference.........	-0.663	-1.264	-2.622	-3.750	-3.002	-1.868	-1.127	-0.894

TABLE 91

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA MERGED INTO EDWAA PARTICIPANTS (Thousands)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	332.317	313.240	312.325	328.806	334.372	337.588	343.952	352.604
$Difference.........	-4.423	-9.167	-8.587	-6.012	-3.939	-1.894	0.815	3.441
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	23.419	21.481	20.617	20.854	20.749	20.632	20.875	21.202
$Difference.........	-0.261	-0.527	-0.476	-0.316	-0.191	-0.069	0.141	0.307
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	52.159	49.009	48.867	51.840	52.625	52.432	52.716	53.238
$Difference.........	-0.659	-1.372	-1.301	-0.938	-0.610	-0.264	0.237	0.679
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	56.070	52.875	53.071	56.051	56.833	57.971	59.782	61.798
$Difference.........	-0.750	-1.558	-1.472	-1.055	-0.697	-0.333	0.151	0.638
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	54.832	50.542	50.504	52.859	53.384	53.651	54.184	54.877
$Difference.........	-0.886	-1.796	-1.633	-1.104	-0.756	-0.412	0.043	0.517
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	21.467	19.975	19.756	20.861	21.261	21.332	21.574	21.913
$Difference.........	-0.297	-0.629	-0.594	-0.412	-0.261	-0.108	0.093	0.264
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	19.102	18.444	18.674	19.878	20.356	20.737	21.426	22.502
$Difference.........	-0.209	-0.432	-0.384	-0.242	-0.150	-0.065	0.097	0.235
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	33.024	31.763	31.429	32.769	33.331	33.976	34.908	36.162
$Difference.........	-0.404	-0.849	-0.837	-0.633	-0.414	-0.189	0.046	0.265
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	13.528	12.968	12.986	13.827	14.259	14.435	14.784	15.319
$Difference.........	-0.182	-0.381	-0.306	-0.154	-0.078	-0.026	0.116	0.225
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	58.716	56.183	56.421	59.866	61.575	62.423	63.757	65.594
$Difference.........	-0.775	-1.623	-1.582	-1.158	-0.782	-0.428	-0.055	0.311
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 92

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA AND EDWAA PARTICIPANTS (Thousands)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	340.936	321.365	320.426	337.334	343.044	346.344	352.873	361.749
$Difference.........	-4.538	-9.405	-8.810	-6.168	-4.041	-1.943	0.837	3.530
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	24.026	22.038	21.152	21.395	21.287	21.167	21.416	21.751
$Difference.........	-0.268	-0.540	-0.488	-0.325	-0.196	-0.071	0.144	0.315
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	53.512	50.280	50.134	53.184	53.990	53.792	54.083	54.619
$Difference.........	-0.676	-1.408	-1.335	-0.962	-0.626	-0.271	0.243	0.697
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	57.524	54.246	54.448	57.504	58.307	59.474	61.333	63.400
$Difference.........	-0.769	-1.598	-1.510	-1.083	-0.715	-0.342	0.155	0.654
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	56.254	51.853	51.814	54.230	54.768	55.042	55.590	56.300
$Difference.........	-0.909	-1.843	-1.676	-1.133	-0.776	-0.422	0.045	0.530
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	22.024	20.493	20.268	21.402	21.813	21.885	22.134	22.481
$Difference.........	-0.305	-0.645	-0.610	-0.423	-0.268	-0.110	0.095	0.271
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	19.597	18.923	19.158	20.394	20.883	21.274	21.982	23.086
$Difference.........	-0.215	-0.443	-0.394	-0.248	-0.153	-0.066	0.100	0.241
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	33.880	32.587	32.245	33.618	34.196	34.857	35.813	37.100
$Difference.........	-0.414	-0.871	-0.859	-0.649	-0.425	-0.194	0.047	0.272
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	13.878	13.305	13.323	14.186	14.628	14.810	15.167	15.716
$Difference.........	-0.186	-0.391	-0.314	-0.158	-0.080	-0.027	0.119	0.231
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	60.239	57.641	57.884	61.419	63.172	64.042	65.411	67.295
$Difference.........	-0.795	-1.665	-1.623	-1.188	-0.802	-0.440	-0.056	0.319
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 93

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
EDWAA ONLY PARTICIPANTS (Thousands)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	306.460	288.867	288.023	303.221	308.355	311.321	317.189	325.168
$Difference.........	-4.079	-8.454	-7.919	-5.545	-3.633	-1.746	0.752	3.173
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	21.597	19.809	19.013	19.232	19.134	19.027	19.251	19.552
$Difference.........	-0.241	-0.486	-0.439	-0.292	-0.176	-0.063	0.130	0.283
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	48.101	45.195	45.065	47.806	48.530	48.353	48.614	49.096
$Difference.........	-0.608	-1.265	-1.200	-0.865	-0.563	-0.244	0.219	0.626
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	51.707	48.761	48.942	51.689	52.411	53.460	55.130	56.989
$Difference.........	-0.691	-1.436	-1.358	-0.973	-0.642	-0.307	0.140	0.588
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	50.565	46.609	46.574	48.746	49.230	49.476	49.968	50.607
$Difference.........	-0.817	-1.657	-1.506	-1.018	-0.697	-0.380	0.040	0.477
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	19.797	18.421	18.218	19.238	19.607	19.672	19.896	20.208
$Difference.........	-0.274	-0.580	-0.548	-0.380	-0.241	-0.099	0.086	0.243
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	17.616	17.009	17.221	18.332	18.772	19.123	19.759	20.751
$Difference.........	-0.193	-0.398	-0.355	-0.223	-0.138	-0.060	0.090	0.217
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	30.454	29.291	28.984	30.219	30.738	31.332	32.191	33.348
$Difference.........	-0.372	-0.783	-0.772	-0.583	-0.382	-0.174	0.042	0.245
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	12.475	11.959	11.975	12.752	13.149	13.312	13.634	14.127
$Difference.........	-0.168	-0.352	-0.282	-0.142	-0.072	-0.024	0.107	0.207
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	54.147	51.812	52.031	55.208	56.784	57.566	58.796	60.490
$Difference.........	-0.715	-1.497	-1.459	-1.068	-0.721	-0.395	-0.050	0.286
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

TABLE 94

NAFTA IMPACTS ON WORKER ASSISTANCE PROGRAMS
TAA ONLY PARTICIPANTS (Thousands)
NONGRADUAL CASE (VS. BASE CASE)

	1993	1994	1995	1996	1997	1998	1999	2000
U.S. Total	34.477	32.498	32.403	34.112	34.690	35.024	35.684	36.581
$Difference.........	-0.459	-0.951	-0.891	-0.624	-0.409	-0.196	0.085	0.357
%Difference.........	-1.314	-2.843	-2.676	-1.796	-1.164	-0.558	0.238	0.985
New England	2.430	2.229	2.139	2.164	2.153	2.140	2.166	2.200
$Difference.........	-0.027	-0.055	-0.049	-0.033	-0.020	-0.007	0.015	0.032
%Difference.........	-1.104	-2.393	-2.257	-1.494	-0.912	-0.332	0.679	1.469
Middle Atlantic	5.411	5.084	5.070	5.378	5.460	5.440	5.469	5.523
$Difference.........	-0.068	-0.142	-0.135	-0.097	-0.063	-0.027	0.025	0.070
%Difference.........	-1.248	-2.723	-2.594	-1.777	-1.146	-0.501	0.452	1.292
South Atlantic	5.817	5.486	5.506	5.815	5.896	6.014	6.202	6.411
$Difference.........	-0.078	-0.162	-0.153	-0.109	-0.072	-0.035	0.016	0.066
%Difference.........	-1.319	-2.862	-2.699	-1.848	-1.211	-0.571	0.254	1.043
East North Central	5.689	5.244	5.240	5.484	5.538	5.566	5.621	5.693
$Difference.........	-0.092	-0.186	-0.169	-0.115	-0.078	-0.043	0.005	0.054
%Difference.........	-1.591	-3.432	-3.133	-2.046	-1.397	-0.762	0.080	0.951
East South Central	2.227	2.072	2.050	2.164	2.206	2.213	2.238	2.273
$Difference.........	-0.031	-0.065	-0.062	-0.043	-0.027	-0.011	0.010	0.027
%Difference.........	-1.366	-3.052	-2.920	-1.939	-1.214	-0.502	0.433	1.220
West North Central	1.982	1.914	1.937	2.062	2.112	2.151	2.223	2.335
$Difference.........	-0.022	-0.045	-0.040	-0.025	-0.016	-0.007	0.010	0.024
%Difference.........	-1.084	-2.287	-2.017	-1.202	-0.729	-0.311	0.457	1.056
West South Central	3.426	3.295	3.261	3.400	3.458	3.525	3.622	3.752
$Difference.........	-0.042	-0.088	-0.087	-0.066	-0.043	-0.020	0.005	0.028
%Difference.........	-1.208	-2.604	-2.595	-1.894	-1.227	-0.552	0.131	0.739
Pacific Northwest	1.403	1.345	1.347	1.435	1.479	1.498	1.534	1.589
$Difference.........	-0.019	-0.040	-0.032	-0.016	-0.008	-0.003	0.012	0.023
%Difference.........	-1.326	-2.855	-2.304	-1.099	-0.546	-0.183	0.792	1.489
Pacific Southwest	6.092	5.829	5.853	6.211	6.388	6.476	6.615	6.805
$Difference.........	-0.080	-0.168	-0.164	-0.120	-0.081	-0.044	-0.006	0.032
%Difference.........	-1.303	-2.808	-2.728	-1.898	-1.254	-0.682	-0.086	0.476

APPENDIX C

NAFTA, MIGRATION, AND U.S. LABOR MARKETS

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NAFTA, MIGRATION, AND U.S. LABOR MARKETS

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Executive Summary

The North American Free Trade Agreement (NAFTA) is unprecedented: never before have countries whose per capita GNPs differ by 9 to 1 entered into and completed negotiations to free trade and investment between them.[1] In contrast to European efforts at economic integration, NAFTA is a much narrower effort aimed at creating a common market for goods and investments in Canada, the United States, and Mexico. NAFTA's common market will encompass 360 million people and their $6 trillion GNP, one-third the world's total output.

Labor migration is not on the NAFTA negotiating table, but the Mexican and U.S. governments have expressed the hope that NAFTA will reduce Mexico-to-U.S. migration. President Salinas has reminded U.S. audiences that Mexico would rather export goods than people, and both he and President Bush argue that a NAFTA which increases trade and investment will also reduce Mexico-to-U.S. migration.

Presidents Bush and Salinas are correct about the long-term ability of more trade and investment to reduce emigration, but the disruptions and displacement associated with the restructuring of the Mexican economy accelerated by NAFTA are likely to increase emigration during the agreement's first decade. Mexicans are the most important component of the fast-growing Hispanic work force: two-thirds of the 10 million Hispanic workers in the United States are of Mexican origin, and about one-sixth of them are immigrants employed in agriculture.[2] There are at least 1 million Mexican immigrant farm workers already employed in the United States, and NAFTA is likely to add more immigrants to the farm work force in the 1990s.

Agriculture has been a contentious issue during NAFTA negotiations, but not because NAFTA is likely to accelerate changes in the Mexican countryside and thus increase Mexico to U.S. migration. American farmers fear that Mexico has a comparative advantage in producing labor-intensive fruits, vegetables, and horticultural specialty (FVH) products, thus threatening some of the producers of the fastest-growing segment of U.S. agriculture. Although U.S. producers of FVH commodities might have been expected to worry about Mexican development eventually reducing their access to Mexican workers, they express far more concern about product market competition than labor market competition. It should be emphasized that the United States is a net exporter of farm products to Mexico, and that U.S. agriculture would on balance benefit from NAFTA.

Most U.S. farmers and their families are likely to benefit from NAFTA as U.S. exports of corn and grains rise. However, U.S. farm workers may suffer if NAFTA accelerates Mexico to U.S. migration, further depressing wages and working conditions. Mexican-born immigrant workers are already a majority of the U.S. farm work force, and their share is rising. If NAFTA even temporarily increases Mexico to U.S. migration, U.S. farm workers—who are already among the poorest American workers—may slip further behind other U.S. workers.

Predicting the incremental effects of a NAFTA on already linked rural labor markets requires an evaluation of how potential Mexican migrants and U.S. employers and workers will react to NAFTA-inspired changes in wage ratios and job prospects in both countries. Mexicans migrated to the United States in increasing numbers during the 1980s because there was a U.S. demand-pull for Mexican labor. Mexican supply-push factors that encouraged emigration were also strengthened during the decade. Third, the migrant networks that sustain the binational labor market between the two countries also expanded.

How will NAFTA affect these demand-pull, supply-push, and network factors that govern migration flows? First, NAFTA is not likely to decrease rural Mexican migration to the United States, at least during the 1990s, because a still-expanding U.S. labor-intensive agriculture should continue to pull Mexican workers into the United States. These demand-pull pressures are augmented by the continued departure of U.S.-born workers from the rural work force and their replacement with rural Mexicans. Second, Mexican supply-push pressures should remain high in the 1990s. They may even increase as Mexico's rural economy is restructured as a result of land reforms, NAFTA, and the further opening to world trade of the Mexican economy. Third, there are sophisticated networks in place that bring rural Mexicans legally and illegally to the United States, and they will guide some of the 1 million[3] or more farmers, farm workers, and their families who are expected to be displaced from Mexican agriculture each year in the 1990s to the United States.

This expected displacement of Mexican labor from agriculture can be put into perspective by comparing it to displacement from U.S. agriculture. During the 1950s over 1 million people annually left U.S. farms. The southern U.S. states lost 40 percent of their farm population in the 1950s because of mechanization, the consolidation of farms into fewer and larger units, and the availability of factory jobs in the Midwest. Mexico, with a population half the size of the U.S. population in 1960, is expected to experience a similar level of displacement from agriculture in the 1990s. The prospect of twice the proportionate volume of displacement from agriculture in Mexico, as well as the tendency of displaced farmers to seek jobs in Northern Mexico and the United States, practically guarantees more Mexico-to-U.S. migration in the 1990s with or without NAFTA.

NAFTA is the best hope for the economic growth and jobs that should let Mexicans eventually stay at home. The reason for embracing NAFTA despite its potential to increase emigration, at least initially, is simple. The United States received about 9 million immigrants, including 3 million Mexicans, during the 1980s.[4] Projections are that 4 to 5 million legal and illegal Mexican immigrants may arrive in the 1990s. Without a NAFTA-inspired trade and investment boom in Mexico, the United States is likely to accept a large number of Mexican immigrants in the 1990s, and then look forward to another large number in the first decade of the 21st century. NAFTA, on the other hand, should accelerate the economic development that can diminish the demand-pull and supply-push factors that increased Mexican migration to the United States in the 1980s.

Incomes and wages do not have to be equalized in order to keep Mexicans at home. The European Communities(EC) experience demonstrates that economic integration can prevent migration despite persisting economic differences. A NAFTA which reduces the un- and under-employment rate difference to 2 to 1, the wage ratio to 4 or 5 to 1, **and** causes wages to rise faster in Mexico than in the United States, can drastically reduce migration for employment long before job opportunities and wages are equalized in the two countries.

Since NAFTA is not likely to slow the Mexico-to-United States migration in the 1990s that is transforming rural America, the United States should anticipate and plan for the additional short-term migration that may result from NAFTA. Three policy options seem appropriate. First, there is a need to assure that the agricultural provisions of NAFTA are phased in to allow a transition period for Mexican farmers and workers. The prospect of displacing millions of rural Mexican workers who are already linked to the U.S. labor market is the source of predictions that NAFTA could dramatically increase Mexico to U.S. migration, at least in the short term.

Second, the nature of economic change in rural America suggests that rural development assistance may be more useful than Trade Adjustment Assistance (TAA) there. The U.S. fruit and vegetable industry is expanding, and this expansion is accompanied by portable technologies that replace nonfarm packing and processing jobs with farm jobs. Many of the labor-displacing structural changes in the food processing industry have already occurred, and food-industry experts do not anticipate a large movement of remaining plants south to Mexico. When individual plants do move, their reason for moving is as much due to the costs associated with upgrading U.S. plants to satisfy environmental laws as with a search for low-wage workers. For these reasons, economic development assistance may be more appropriate than targeted TAA for rural America.

Third, with or without NAFTA, U.S. agriculture is likely to employ about 2.5 million hired workers sometime during a typical year in the 1990s. After 10 to 15 years, these mostly immigrant workers tend to leave the fields. There are ten federal programs that spend over $600 million annually to help farm workers achieve upward mobility in farm and nonfarm labor markets, but these services are often not well coordinated and they are usually provided in a fashion that gives intensive services to a handful of individuals.

Some 200,000 to 300,000 workers leave the farm work force every year, and most drift into nonfarm U.S. labor markets without English language or other skills needed for success there. These programs today appear to have no unifying goals. Since access to and success in nonfarm labor markets for many farm workers is limited by their lack of English, farm worker assistance programs might re-orient their services to offer English language training to the many immigrant workers who need it.

1. Introduction

This report examines the effects of the North American Free Trade Agreement (NAFTA) on U.S. workers and labor markets. The analysis is based on a qualitative assessment of the three major factors responsible for Mexico to U.S. migration, viz: demand-pull forces within the United States that generate jobs for rural Mexicans here; supply-push factors in Mexico that encourage emigration from there; and networks of friends and relatives already in the United States that help rural Mexicans to get U.S. jobs.

During the 1980s, these demand-pull, supply-push, and network factors combined to stimulate Mexico to U.S. migration—about one-third of the nine million immigrants and temporary legal residents in the United States at the end of the 1980s were from Mexico. Without a NAFTA, these factors are likely to generate even more Mexico-to-U.S. migration in the 1990s. With a NAFTA, there is likely to be a J-curve effect on Mexico to U.S. migration: migration may initially increase, as NAFTA accelerates the restructuring of the Mexican economy and thus adds to supply-push factors, but eventually NAFTA should reduce both the U.S. demand-pull and Mexican supply-push factors that encourage migration.

This report on NAFTA, migration, and U.S. labor markets focuses on workers and jobs that are not well understood. The second section briefly summarizes NAFTA: its goals, dimensions, and likely effects on the U.S. and Mexican economies. Mexicans have been migrating to the United States to do farm work at least temporarily for almost a century, and the third section explains how decades of migration created demand-pull, supply-push, and network factors that made migration an integral part of certain areas and sectors of the Mexican and U.S. economies.

The fourth section outlines the demand-pull forces that drew rural Mexicans into the United States during the 1980s, viz, an expanding U.S. FVH agriculture, the "Mexicanization" or "Latinization" of rural America's work force, and a revolving door farm labor market which drew in new Mexican immigrants to replace those who found nonfarm jobs or returned to Mexico. The fifth section examines the supply-push factors that propelled rural Mexicans northward in the 1980s, including rapid population and labor force growth, a cost-price squeeze in Mexican agriculture, and the urban crisis in Mexico. The sixth section reviews the culture of emigration that has developed in rural Mexico which makes migration to the United States a normal part of growing up for many young Mexicans, and explains how this culture of migration reinforces the networks that have evolved to link U.S. jobs and Mexican workers.

The seventh section concludes that increased trade and investment is the best long-term policy to accelerate what has been termed stay-at-home development in Mexico, but that NAFTA will temporarily increase Mexico-to-U.S. migration. The eighth section reviews the policy options to deal with this increased migration. The options address a scenario in which free trade in farm products is phased-in slowly to minimize labor displacement in rural Mexico, the desirability of broad economic development assistance than narrow TAA for the rural U.S. communities affected by NAFTA, and revisions in the farm worker service programs that will become more important immigrant integration programs in the 1990s.

2. NAFTA in Perspective

A NAFTA would create the world's largest free trade area. The NAFTA area's 1990 population of 363 million and its GNP of $6.2 trillion equals or exceeds the combined European Communities (EC) and European Free Trade Association (EFTA) population of 360 million and GNP of $6 trillion (Table 1). However, the United States dominates the NAFTA area, accounting for 88 percent of its GNP, while dominant Germany accounts for 25 percent of the European economy.

Table 1. Canada, Mexico, and the United States (1990)

	GNP ($bil)	Real Growth Rate (1980-1990)	GNP Per Capita $	Real Growth Rate (1980-1990)	Population(mil)	Growth Rate (1980-1990)
Canada	543	3.3	20,450	2.4	26.3	0.9
Mexico	214	1.1	2,490	-0.9	86.2	2.0
U.S.	5,446	3.2	21,700	2.2	250.9	1.0
Total	6,203				363.4	

Source: The World Bank Atlas 1991

Unlike the European nations, the three North American countries have large foreign debts and current account deficits, so that all three need export-led growth strategies to help their workers and firms to compete more effectively in the global marketplace.

NAFTA's Effects on the United States and Mexico

How will a NAFTA affect North American economies and labor markets? Most studies of NAFTA's effects are concerned with the effects of trade liberalization in Mexico, largely because the United States and Canada are much bigger economies that have had a free trade agreement since 1989 (KPMG Peat Marwick, 1991; U.S. International Trade Commission, 1991; U.S. International Trade Representative, 1991). There are dozens of models which project the effects of a NAFTA on Mexico and the United States, and most are comparative statics or snapshot analyses that explain the current status of macro economic variables in the two countries and then predict their likely levels 5 to 10 years after a NAFTA is in place. Most of these models say little about the adjustment path by which the Mexican and U.S. economies will move from their 1990 levels of jobs, wages, and exports and imports to different levels in 2000, so most do not deal directly with migration and its effects.

The major effects of a NAFTA on U.S. and Mexican economic variables likely to be directly affected by NAFTA are the subject of sharp debate. For example, a study prepared for the U.S. Department of Labor in 1990 predicted that 88,000 U.S. jobs would be created because of NAFTA over its first 10 years and that 24,000 jobs would be lost, for a net 64,000 U.S. job gain, including 12,000 added jobs in U.S. agriculture. These U.S. job change estimates due to NAFTA have been characterized as "near the middle" of the available estimates.

The U.S. economy typically adds 150,000 to 200,000 jobs every month, so a prospective loss of 24,000 U.S. jobs during the first 10 years of a NAFTA should be a non-event. But NAFTA-related job losses have become a major issue in the United States, with unions projecting the loss of hundreds of thousands of U.S. jobs and many reluctant supporters of NAFTA urging an import tax or the retention of some tariffs to generate funds for a TAA program for U.S. workers who are expected to lose their jobs because of NAFTA. For example, local union leaders at a recent conference reported that a large airport was being constructed in Tijuana. They feared that U.S. airlines were involved in the project in order to have maintenance done on U.S. planes at lower Mexican wages. Similarly, U.S. seamen and ship maintenance workers unions fear that Mexican ships will eventually acquire the right to move cargo between U.S. ports displacing them, and that modern dry-docks will be built in Mexico to repair U.S. ships with Mexican workers. Perhaps the most imaginative example of these job loss fears was a janitorial union representative who reported rumors that U.S. cleaning companies were considering flying jet loads of Mexican cleaners to U.S. cities to clean office buildings on weekends.[5]

Most projections of NAFTA's effects agree that they will be far larger in Mexico than in the United States, but they arrive at this conclusion on the basis of an almost bewildering array of methods and assumptions. One of the most cited projections makes job changes dependent on changes in trade flows, and it initially concluded that the United States would gain 130,000 jobs because of a NAFTA-inspired trade boom and that Mexico would add 609,000 jobs. The methodology is straightforward: each $1 billion in additional U.S. imports displaces 14,500 U.S. workers and each $1 billion in additional U.S. exports creates 14,500 U.S. jobs, i.e. each $69,000 change in the trade balance adds or subtracts one U.S. job (Hufbauer and Schott, 1992, p. 58). The model projects that U.S. imports from Mexico will increase by $7.7 billion because of NAFTA, implying that 112,000 U.S. workers will be displaced (Figure 1). The model also projects an increase in U.S. exports of $16.7 billion because of NAFTA, creating 242,000 U.S. jobs, for a net U.S. job gain of 130,000 (Hufbauer and Schott, 1992, p. 60).

This model was updated in July 1992 when the trade and jobs linkage was changed, so that a $1 billion change in trade was estimated to create or destroy 19,600 jobs, i.e.,each change in the trade balance of about $51,000 adds or subtracts one U.S. job. The same projected trade changes (a trade surplus of $9 billion for the United States) now lead to larger labor market impacts: IIE with this smaller trade and job linkage projects that NAFTA will create 325,000 new U.S. jobs by 1995 and destroy 150,000 U.S. jobs, for a net 175,000 U.S. job gain. However, even the higher 175,000 net new U.S. jobs created by NAFTA over 3 to 4 years is no answer to a recession. The net job gain due to NAFTA is fewer than the number of jobs were added during an average month in 1988, when employment rose by 200,000 monthly. NAFTA's effects on U.S. wages are also expected to be very small: on the order of a 10¢ increase after four years of a NAFTA for a U.S. worker earning $10.00 per hour.

NAFTA should have more significant effects on Mexican employment and wages. The Mexican economy, which offered 19 million nonfarm jobs in 1989, including 3.4 million in manufacturing, may add up to 1.5 million more because of NAFTA. However, the econometric models which agree that the U.S. labor market will add a small but positive number of jobs because of NAFTA disagree on NAFTA's expected effects on jobs in Mexico: some models project a loss of 160,000 jobs, some expect no net increase in Mexican employment, and one projects 1.5 million more jobs. Most models project 200,000 to 300,000 additional jobs in Mexico because of NAFTA, which indicates that NAFTA is not the solution to Mexico's need to create 1 million jobs annually for new labor force entrants. NAFTA is expected to have more effects on Mexican than U.S. wages. Mexican labor costs of, say, $1.20 hourly are projected to rise by 0 to 16 percent, with most estimates in the 2 to 3 percent range. Since Mexico is starting from lower bases, the percentage increases in Mexican labor market variables should be more visible to the average Mexican worker.

Figure 1. NAFTA's Expected Effects on the United States and Mexico

1. Mexican exports and imports. Mexico exported goods and services worth $33 billion in 1989; three-fourths of Mexico's exports go to the U.S. World Bank studies suggest that, in the first years after economic policy liberalization, a country's exports rise at an average real growth rate of 11 percent yearly, which would make Mexico's exports in 1995 in the $62 to $68 billion range. Without a NAFTA, Mexico's exports would rise, but at an 8 percent annual rate, in the $52 to $58 billion range.

Mexico imported goods and services worth $31 billion in 1989, including U.S. goods worth $300 per capita. Mexico is expected to import as much as its exports and capital imports allow. This means that exports of $65 billion in 1995, plus worker remittances of $4 billion, plus net capital inflows of $10 to $12 billion, would permit Mexico to import goods and services worth $80 billion in 1995. Since 70 percent of Mexico's imports are from the United States, a NAFTA which permitted Mexico to import about $80 billion worth of goods in 1995, instead of the $65 billion expected without NAFTA, would boost U.S. exports to Mexico by $15 billion.

Mexico sells three-fourths of its exports to the United States, and buys three-fourths of its imports from the United States, so for each $10 billion by which a NAFTA increases Mexico's exports, Mexico buys an additional $7.5 billion of U.S. imports by 1995. If Mexico imports an additional $25 billion because of NAFTA in 1995, and if the United States maintains its share of Mexican imports, then there would be an additional $19 billion in U.S. exports. The U.S. trade balance, in this scenario, would improve by about $11.5 billion.

2. U.S. Jobs and Wages. In the mid-1980s, each $1 billion net improvement in the United States trade balance added about 14,500 U.S. jobs, or every net increase of $70,000 of exports over imports created one U.S. job. A net increase in the United States trade balance of, say, $11.5 billion by 1995, suggests that an additional 168,000 jobs may be created in the United States by NAFTA. Since the U.S. economy sometimes adds this many jobs in one month, most analyses assume that there will be no effect of NAFTA on overall U.S. wages. Revised estimates in July 1992 reduced this trade to job linkage to $51,000, so that a $9 billion net increase in the U.S. trade surplus due to NAFTA creates a net 176,000 additional U.S. jobs.

3. Mexican Jobs and Wages. Since Mexican manufacturing wages were roughly one-sixth of U.S. manufacturing wages in 1989, it is assumed that a $1 billion increase in Mexico's net exports creates six times more jobs than in the United States, or 87,000 jobs, i.e. job creation costs $70,000 per job in the United States and $11,700 in Mexico. With a NAFTA, the Mexican trade balance in goods is expected to improve by $7 billion, creating 609,000 jobs in Mexico by 1995 and adding 2 percent to projected Mexican employment of 30.5 million. Mexican wages may not rise because of persisting un- and under-employment, but the foreign direct investment in Mexico and the return of Mexican flight capital is expected to cause the real peso exchange rate to rise by 30 percent and, if each 1 percent appreciation in the peso reduces Mexican living costs by 0.3 percent, real Mexican wages would rise by 9 percent due to the appreciating peso.

4. Evaluation. An improvement in the U.S. trade balance of $8 to $12 billion, and the 115,000 to 168,000 additional U.S. jobs that might be created, is almost insignificant in a U.S. economy which exports goods and services worth almost $500 billion annually and imports almost $600 billion annually. However, a net improvement of $7 to $8 billion in Mexico's trade balance is very significant in an economy where exports are worth $33 billion and imports $31 billion.

The model summarized above is more optimistic about NAFTA's ability to increase trade and create jobs than most other models. All models agree that the effect of a NAFTA on U.S. job creation and U.S. wages will be small—all project a net change in U.S. jobs due to NAFTA after 5 to 10 years that is less than the 200,000 net new jobs added each month in non-recession periods. Most report U.S. wage gains due to NAFTA of .01 or 0.02 percent, meaning that a $10 per hour wage would rise by 10¢ or 20¢ by 1995.

Source: Adapted from Hufbauer and Schott, 1992, pp. 47-64.

All of these models are comparative statics models. This means they compare a snapshot of the pre-NAFTA situation with a snapshot of the North American economies and labor markets after NAFTA has been in place for 3 to 5 years. These models do not explain the dynamic adjustment path—they do not provide a motion picture account—of the move from pre-NAFTA to post-NAFTA economies and labor markets, and thus they say little about how NAFTA will affect current migration patterns.

These comparative statics models suggest that there should be few U.S. concerns about freeing trade and investment with Mexico. However, NAFTA has raised concerns in the United States that reflect fears that some sectors of the U.S. economy will shrink in the face of Mexican competition, and fears that U.S. jobs will flee to an economy where wages are only one-ninth of U.S. levels. These fears are probably exaggerated, as illustrated by the expected effects of NAFTA on U.S. agriculture.

U.S. agriculture would be a net gainer from a NAFTA, as U.S. food grain, feed grain, and processed food exports to Mexico are likely to rise faster than Mexican exports of fruits, vegetables, and horticultural specialty crops (FVH) to the United States. The United States in 1990 exported $2.5 billion in agricultural products to Mexico, and the United States imported farm products from Mexico worth $2.6 billion, but in 1991, U.S. farm exports to Mexico exceeded farm imports. The average U.S. tariff on Mexican farm products was 4 percent in 1990, and the average Mexican tariff on U.S. farm products was 11 percent but, in both countries, nontariff barriers are more important impediments to free trade than tariff barriers. Mexico traditionally required food importers to obtain licenses for each commodity that they wish to import, so that Mexico can control farm imports by restricting licenses. By 1990 Mexico had reduced the number of commodities that required licenses from over 350 to 57. However, the commodities requiring import licenses still account for the majority of U.S. farm exports to Mexico.

The United States limits farm imports from Mexico with tariffs as well as nontariff barriers. The average U.S. tariff of 4 percent applies to about 25 percent of Mexico's farm exports to the United States, but these tariffs are highest when Mexico exports its seasonal commodities, e.g., the U.S. tariff on tomatoes is 40 percent higher in the spring months when Mexico exports tomatoes than during the rest of the year. U.S. marketing orders establish quality standards that domestically-produced and imported fruits and vegetables must meet. Mexican producers allege that the U.S. growers, whose votes can change size or maturity standards for both domestically-grown and imported produce, change these orders frequently in order to reduce the ability of Mexican products to enter the United States. U.S. health and phytosanitary standards apply to food imports, and they currently prohibit the importation of Mexican avocados (Mexico's 1 billion pounds are 50 percent of world production) and require Mexican citrus to undergo a treatment for fruit flies that damages the exterior of the fruit and lowers its value.

The conventional wisdom is that freeing trade in farm products could double agricultural trade between the United States and Mexico, with U.S. grain producers gaining and U.S. FVH growers losing. However, U.S. fruit and vegetable growers are quick to note that there is no real symmetry between these expected U.S. farm gainers and losers. The grain industry worldwide suffers from over-capacity, and the United States and Canada are seeking to reduce government subsidies to grain producers in the current Uruguay round of General Agreement on Trade and Tariffs (GATT) negotiations. Without an agreement to reduce such subsidies worldwide, reduced Mexican barriers to trade in grains could open up the Mexican market to non-U.S. producers. For example, even though the United States has transportation advantages, the European Communities (EC) could decide to subsidize exports of its surplus grain and wind-up with a significant share of any larger Mexican grain market. FVH commodities are perishable, and they are not usually the target of trade battles fought with government subsidies, so that a lowering of U.S. trade barriers for FVH commodities is likely to produce increased imports from only one country–Mexico. However, U.S. FVH consumption is expanding by 20 to 30 percent per decade, so both imports and domestic production can increase without displacing U.S. fruit and vegetable growers or the Mexican workers they hire to pick their crops.

Other U.S. sectors that can expect to gain as trade barriers with Mexico fall include chemicals and pharmaceuticals, high-grade steel goods, and industrial machinery and other capital goods. Mexican exports of petroleum and petroleum products to the United States should increase, especially if Mexico opens its energy sector to the foreign investment needed to upgrade its technologies. Mexican exports of textile and apparel products should also rise under a NAFTA. Many U.S. durable goods industries, such as equipment and autos, are expected to be affected in a manner similar to U.S. agriculture: some subsectors should expand with freer trade, while others shrink as imports rise, but on balance the U.S. sector should benefit from freer trade. An integrated North American automobile industry, for example, is expected to result in the expansion of production in Mexico. Mexican labor productivity is expected to increase as the modern equipment installed in newly-built factories raises productivity faster than Mexican wages rise, encouraging production to shift there. The Mexican auto industry is expected to specialize in the production of auto parts and the assembly of light cars and trucks, while the United States is likely to specialize in the production of larger cars, heavy trucks, and buses.

Trade and Migration: Four Interactions

Most studies of NAFTA's effects say little about how NAFTA will affect Mexico to U.S. migration. The macro model which most explicitly considers Mexico to U.S. migration is that of Hinojosa-Ojeda and Robinson (1991), which estimated that between the current pre- and some post-NAFTA period, NAFTA would displace about 1.4 million rural Mexicans, largely because freer trade in agricultural products is expected to displace Mexican corn and bean farmers faster than jobs are created by NAFTA in Mexican factories and FVH agriculture. However, most of these additional displaced rural Mexicans are expected to migrate to Mexican urban areas; only 600,000 are expected to come to the United States. Since they would arrive over, for example, five years, net additional Mexico to U.S. migration would be perhaps 120,000 per year. Since Mexican immigration averaged over 300,000 annually in the 1980s (legal immigrants plus temporary residents plus illegals), and is likely to be 400,000 or more in the 1990s, an additional 120,000 Mexican migrants annually would be a 30 percent increase in Mexico-to-U.S. migration.

There is no precedent for economic integration between countries with 10 to 1 wage gaps and a history of migration between them. However, the European Communities (EC) integrated Greece, Spain, and Portugal, countries with 5 to 1 wage and income gaps, with very little additional migration. The projection of significantly increased Mexico-to-U.S. migration, and the reality of almost no additional migration with economic integration in the EC, justifies a short review of how trade policies and patterns can affect migration and how migration interacts with trade policies and patterns.

The basic trade model assumes that labor, capital, and land are immobile, but it argues that unrestricted goods trade tends to equalize wages between countries, the return on capital investments, and rents. In neoclassical trade theory, where there are no nontraded goods and there is full employment, trade in labor-intensive and capital-intensive goods is a substitute for labor migration and capital flows. If trade encourages wage levels to eventually converge, there is no need for international migration in search of higher wages.

If trade in goods is not free, then labor migration can equalize wages between countries and thus eliminate the incentive for more migration. Given a total work force divided between two countries, with workers in both countries paid the value of the marginal product they produce, then the migration of workers from the lower to the higher-wage country will raise wages in the low-wage country and lower them in the higher wage country. Trade theory recognizes that wages do not have to be equal to stop migration to the higher wage country if culture, weather, or cost-of-living differences persist between them.

Free trade has been an economic mantra for 200 years. Economists have usually assumed free migration within countries, but no international migration for economic reasons. In the U.S.-Mexican case, a world without trade barriers should see the United States exporting capital-intensive goods to Mexico, Mexico exporting labor-intensive goods to the United States, wages eventually converging, and an end to Mexico-to-U.S. migration in search of higher wages.

However, trade in goods as a substitute for the migration of labor is only one of four possible trade and migration linkages. In the first interaction, trade can be a substitute for migration as economic theory suggests (Figure 2). It is clear that if the United States currently produces 70 percent and Mexico 30 percent of the winter tomatoes consumed in the United States, if Mexican workers pick tomatoes in the United States for $5 hourly and in Mexico for $5 daily, if worker, land, and management quality are similar, and if transportation costs are not significant, then reducing tariff and nontariff barriers can increase Mexican production and exports, lower tomato picker wages in the United States and raise them in Mexico, decrease U.S. production and jobs for Mexican workers here, and thus decrease Mexico-to-U.S. immigration.

Figure 2. Trade and Migration Linkages

		Trade	
		Patterns	Policy
Migration	Patterns	1. Trade and migration are substitutes, e.g., Mexico exports more tomato pickers and fewer tomatoes to the United States	2. Maquiladoras as a response to the end of the Bracero program, i.e., change trade policies to adjust to changed migration policies.
	Policy	3. More migration usually means more trade as, e.g., there is more transportation between countries, and especially as some of the wages earned by migrants are spent on goods with which the migrant became familiar with the host country.	4. Protect an industry and permit the importation of foreign workers for that industry, e.g., protect the U.S. sugar industry and admit H-2A cane cutters.

Source: See text

Trade is not a perfect substitute for migration in this tomato case because the Mexican tomato pickers currently employed in the United States are more productive than those in Mexico, U.S. yields are about twice Mexican yields, and transportation costs to consumers can be 30 to 50 percent of the tomatoes' farm value. However, freer trade in tomatoes would be expected to push

U.S. and Mexican market shares closer to the 50-50 ratio of the early 1980s and to decrease Mexican migration to Florida's expanding winter vegetable industry.

In the second interaction, migration patterns can affect trade policies. The maquiladora program, which permits U.S. firms to export components to Mexican border plants and pay duty only on the value-added by Mexican assembly workers in Mexico, was a trade policy response to the unilateral U.S. termination of the Bracero program in 1964. The Bracero program admitted 4.6 million Mexicans to the United States to be seasonal farm workers between 1942 and 1964. Some Mexican workers returned year after year, so that only 1 to 2 million individuals were involved in this guestworker program. However, during the two decades that this program operated, many Braceros moved their families to Northern Mexican border cities.

When the Bracero program ended, there were fears in both the United States and Mexico that Mexicans who had become dependent on the U.S. labor market would migrate illegally to the United States. The response was Mexico's Border Industrialization Program of 1965, which permitted foreigners to be 100 percent owners of in-bond processing and assembly plants within 20 kilometers of the U.S. border. The United States cooperated by developing tariff schedules which levy charges only on the value of Mexican processing or assembly operations. These processing or assembly plants are known as maquiladoras, from the Spanish verb maquilar, which means to retain a portion of the flour in payment for milling wheat, suggesting that a maquiladora is a processor or assembler of goods which are returned to the original owner for resale. Although maquiladora plants never achieved their goal of providing jobs for ex-Braceros – they were very slow to create jobs, offering only 20,000 jobs in 1970, even though almost 200,000 Braceros were admitted annually in the early 1960s, and the workers who were hired tended to be young women, not the young men who had been Braceros – they doubled their employment to 500,000 between 1985 and 1991. Today the maquiladoras offer an alternative to emigration for about one-sixth of Mexico's manufacturing employment.

As a third interaction, migration policies can affect trade patterns. Policies which encourage shuttle- or guestworker-style migration usually increase trade between the emigration and temporary host countries because migrant workers need transportation, banking, and related services. Trade in goods also tends to expand under guestworker programs. Migrant workers typically remit $2,000 to $3,000 annually to their home countries: in the case of Mexico, remittances were estimated by the World Bank to be $2.3 billion and by others to be $3.9 billion in 1989 (Hufbauer and Schott, 1992, p. 54). These remittances are often spent on, e.g., U.S. goods that migrant workers become familiar with while in the United States, thereby increasing trade.

Finally, trade policies can influence migration patterns. The United States protects its sugar industry by levying a low tariff on the first trade of sugar imported from various countries that have been given the right to export sugar to the United States, and then a high import-stopping tariff on any additional imports. The existence of a U.S. sugar industry that benefits from this trade policy has since 1952 been a major factor in preserving a program which admits temporary foreign workers for temporary U.S. farm jobs; about two-thirds of the 18,000 admissions under this H-2A program in 1990 were Jamaican cane cutters employed in a southern Florida sugar industry that would not exist or would be much smaller if there were no trade protections for the U.S. sugar industry.

NAFTA affects all of these trade and migration interactions. Freer trade under NAFTA should permit trade to be a substitute for migration so that, for example, increased tomato production in Mexico creates jobs and reduces supply-push emigration there. NAFTA should eventually lead to decreases in the U.S. production of tradable goods whose producers depend on

Mexican workers, such as tomatoes, diminishing the demand-pull of jobs here that encourages immigration. A freer trade policy will also increase certain types of migration, as more U.S. maquiladora managers migrate to Mexico and Mexican truck drivers bring an increased volume of goods to the United States.

3. Mexican Migration to the United States

Mexican migration to the United States has its roots in the patterns of development established a century ago. The southwestern U.S. economy developed an enormous appetite for low-wage workers. Many of these workers were needed only seasonally, and farms, railroads, and mines became dependent on recently-arrived immigrants who were willing to accept intermittent employment. Business decisions were soon being made under the assumption that immigrant workers would continue to be available, helping to explain why U.S. employers resisted restrictions on Mexican immigration.

Development patterns in Mexico contributed to the willingness of Mexicans to emigrate. The seven central states of Mexico—Nuevo Leon, Tamaulipas, Zacatecas, San Luis Potosi, Guanajuato, Jalisco, and Michoacan— contributed over half of all migrants to the United States for most of the 20th century(Cross and Sandos, 1981, p. xvi). In these states, the hacienda system relied on permanent and temporary workers to work on estates. During the Mexican Revolution (1913-1920), these North Central States became the battleground between the central government in Mexico City and revolutionaries from states near the U.S. border, and many haciendas reduced their employment of permanent and seasonal workers. As a result, many Mexicans left the North Central States between 1910 and 1930. By one estimate, 20 percent left the region(1.5 million), or 10 percent of Mexico's entire population, who migrated to the United States (Cross and Sandos, 1981, pp. 9-10).

Many of the Mexicans who arrived in the United States between 1910 and 1930 were seasonal sojourners, not immigrant settlers. According to one estimate, only about 1 in 3 Mexicans who migrated to the United States between 1910 and 1930 settled here (Garcia y Griego, 1981, p. 4). The sojourner nature of Mexican immigration was encouraged by the seasonal need for Mexican labor in the United States and by periodic repatriations. Between 1929 and 1933, an estimated 400,000 Mexicans were returned to Mexico, including many U.S. citizens, and their forced return discouraged other Mexicans from attempting to enter the United States during the Depression.

Mexico launched a Green Revolution in 1940 to increase agricultural productivity. The result was a rapid increase in agricultural output--6.3 percent per year between 1940 and 1960, or "equal to the highest rates in the world."(Cross and Sandos, 1981, pp. 18). But the benefits of irrigation, modern seeds and chemicals, and credit accrued primarily to the largest rural landowners, and in a way which "perpetuated the endemic displacement of rural labor begun after the Revolution of 1910."(Cross and Sandos, 1981, pp. 17). Migration, not ejido or communal farm agriculture, became the answer to Mexico's rural development problems.

The Bracero Program

The Bracero[6] program brought rural Mexicans to rural America for over two decades, institutionalizing the dependence of many rural Mexicans on the U.S. labor market. The United States established a unilateral Bracero program in 1917 at the urging of U.S. farmers to admit Mexican workers to fill vacant jobs after the U.S. Department of Labor certified that American workers were unavailable. Some 70,000 Mexican workers entered the United States outside of normal immigration channels between 1917 and 1921, and their presence raised issues whose echo is still heard. Herbert Hoover, in 1918, argued for removing restrictions on Mexican immigration by asserting that "we need every bit of this labor that we can get and . . . we will need it for years to come." The Mexican Consul in Arizona, in the same year, noted that many Mexicans and Mexican-Americans in that state were unemployed, so that "there is an abundance of labor here and what is lacking is a good wage and above all good treatment." (Quoted in Kiser and Kiser, 1979, pp. 14-15).

Mexican migration to the United States had been reduced to a trickle by Depression-era repatriations, but after the U.S. declaration of war on Japan and Germany late in 1941, southwestern farmers asked the U.S. government for permission to import temporary Mexican workers. The Mexican government was initially ambivalent about giving its blessing to a program which sent Mexican nationals to U.S. farms, where complaints of abuses were common. Its distrust of the willingness of U.S. farmers to abide by the contractual wages and conditions they promised to the Braceros led Mexico to demand that Braceros receive contracts from the U.S. government, and that the U.S. government in turn allocate Braceros to farmers. In this way, the U.S. government became responsible for fulfilling any contractual provisions that U.S. farmers failed to satisfy.

The Bracero program was small during the war years, never exceeding 100,000 of the nation's 4 million hired workers. Braceros were concentrated on a few farms in a few states and they worked in a handful of commodities. They were employed primarily in the southwestern states, with the majority employed in California. Fewer than 50,000, or 2 percent of the nation's commercial farms, ever employed Braceros. Although the major crop changed during the life of the program, most Braceros picked cotton during the program's first years.

When World War II ended, the Bracero program was expected to lapse. But growers argued that pre-war farm workers who had been drawn into factory jobs would not return to the seasonal farm work force, and that soldiers who had seen the world were also unlikely to be available to fill seasonal farm jobs. If the U.S. government wanted to produce as much food as possible to feed devastated Europe, farmers argued, Braceros would still be needed.

The Bracero program with the U.S. government as the contractor of Mexican workers nonetheless lapsed on December 31, 1947, and there followed several years of informal and private U.S. employer recruitment of Mexican workers. Illegal immigration increased as Braceros learned they did not have to pay bribes to local Mexican officials to get on recruitment lists, and then pay additional bribes at Mexican recruitment centers in order to work in the United States. U.S. farmers were pleased because they could employ Mexican workers without government "red tape," including having their housing for Braceros-inspected and offering them the minimum or government calculated prevailing wage, whichever was higher.

The informal postwar recruitment of Mexican workers sent Mexicans streaming north illegally. Many were legalized after they arrived in the United States, in a process that came to be termed, even in official U.S. government publications, "drying out the wetbacks." (President's Commission, 1951). The number of aliens who were legalized after arriving and finding employement illegally far exceeded the number of Mexican workers that U.S. employers contracted legally in the interior of Mexico. In 1949, for example, about 20,000 Mexicans received contracts from U.S. employers at recruitment centers in Mexico and legally entered the United States as contract workers, while over 87,000 arrived illegally in the United States and then had their status legalized after they found jobs (President's Commission, 1951, p. 53).

The Bracero program was controversial during the late 1940s, and a President's Commission on Migratory Labor was established to determine the effects of Braceros on U.S. workers. The President's Commission recommended that "no special measures be adopted to increase the number of alien contract workers beyond the number admitted in 1950," which was 67,500 Mexicans (p. 178), and that the United States produce food for the Korean War emergency by using its domestic work force more effectively. Furthermore, the Commission recommended that "legislation be enacted making it unlawful to employ aliens illegally in the United States" and that "legalization for employment purposes of aliens illegally in the United States be discontinued and forbidden" (p. 180). These recommendations were not adopted. Growers tied their request for a new Bracero program to the nation's ability to win the Korean War. In 1951, Congress enacted PL-78, the Mexican Farm Labor Program, the program that is usually meant when describing "the" Bracero program.

The PL-78 Bracero program sowed the seeds for contemporary Mexico-to-U.S. migration by permitting U.S. agriculture to expand without raising wages significantly, thus creating a demand-pull for Mexican workers in the United States, and by reinforcing patterns of development in rural Mexico which made millions of Mexicans dependent on the U.S. labor market. The networks established over the previous two decades of legal recruitment continued to bring unauthorized workers to the United States after the program was terminated in 1964, and these unauthorized workers were sometimes rewarded with a legal immigrant status. During the late 1960s, U.S. ex-Braceros and other Mexicans could become greencard immigrants with the right to live and work in the United States on the basis of letters from U.S. employers that offered them jobs. Workers received immigrant visas that were green, and these "greencard immigrants" usually commuted seasonally between their Mexican homes and U.S. jobs. As they aged, many became the foremen and farm labor contractors (FLCs) who brought younger Mexican workers illegally to the United States in the 1970s and 1980s.

The PL-78 Bracero program raised all of the operational issues and the effects-of-foreign-worker controversies that surround proposals to add a temporary worker program or a mobility component to NAFTA.[7] The U.S. Department of Labor (DOL) had to certify that American workers were not available to fill the jobs being offered to Mexican workers. In a curious protection for U.S. workers, farmers were required to guarantee Braceros—but not U.S. citizen workers—work at the minimum or prevailing wage established by DOL for at least three-fourths of the length of the contract that the employer determined was the period of need.

The U.S. government's regulation of the Bracero program was criticized by farmers and by farm worker advocates. Farmers complained about the government "red tape" involved in hiring Mexican workers legally and continued to employ the Mexicans who arrived illegally. The number of Braceros doubled to 200,000 between 1949 and 1953, but the number of illegal aliens allegedly increased even faster. Attorney General Brownwell toured the U.S.-Mexican border area in 1953 and, appalled by what he saw, persuaded President Eisenhower to order General Joseph Swing to "stop the wetback invasion." Working closely with employers to persuade them that it was better to hire legal Braceros than illegal aliens, the newly strengthened Border Patrol apprehended a record 1.1 million such aliens in 1954. The number of Braceros then climbed, while apprehensions fell: 445,000 Braceros arrived in 1956, while apprehensions fell to 88,000.

The expansion of the Bracero program persuaded employers to hire legal Braceros rather than illegal "wetbacks", but this expansion also sharpened conflicts over the effects of Braceros on U.S. workers. The President's Commission in 1951 asserted that "farm wages... were inversely related to the supply of alien labor" (p. 59), framing an argument that has continued since the 1950s over *how much* of an adverse effect Mexican workers have on U.S. workers. Many observers argue that Braceros were preferred workers who adversely affected U.S. workers because, as "captive workers who were totally subject to the unilateral demands of employers," they worked hard and scared instead of agitating for higher wages or better benefits (Briggs, 1984, p. 101).

The major impact of Braceros on U.S. workers was indirect. Braceros in the fields held down wages there, and a booming nonfarm economy offered higher wage urban jobs, so Mexican-Americans during the 1950s changed from a predominantly rural to a mostly urban population. The availability of Braceros permitted the southwestern states to become the garden states of the United States In California, fruit and nut production rose 15 percent during the 1950s, and vegetable production rose 50 percent. New irrigation facilities expanded the acreage available to grow fruits and vegetables, the interstate highway system allowed produce to be shipped cheaply to eastern markets, and new plant varieties and packing technologies made California produce preferred to locally-grown fruits and vegetables in the eastern United States where most Americans lived.

This expansion of farm production in California was not accompanied by higher farm wages. The U.S. Department of Agriculture's average hourly farm wage rose 41 percent—slightly more than the 35 percent increase in consumer prices—from $.85 in 1950 to $1.20 in 1960. In contrast, average factory wages in California rose 63 percent, from $1.60 per hour in 1950 to $2.60 in 1960. Slowly rising farm wages and faster-rising factory wages drew American workers to factory jobs where there were no Braceros.

The Bracero program became increasingly controversial in the late 1950s. Union organizers such as Ernesto Galarza complained bitterly that U.S. citizen farm workers who called strikes were evicted from grower-owned housing, and that growers then illegally "borrowed" Bracero workers from their neighbors to get their crops harvested. The union would file protests with the U.S. Department of Labor and, long after the harvest was completed, the Department of Labor usually agreed with the union that Bracero workers should not have been used to break the strike. But by then the harvest had been completed, and farmers could get more Bracero workers the next year by pledging not to lend them to break strikes. These incentives led most farmers in several major commodities to rely on Bracero workers. Braceros were 80 percent or more of the peak work forces in tomatoes, lettuce, and lemons.

The undoing of the Bracero program began in 1958, when growers bitterly attacked Secretary of Labor Mitchell for making the enforcement of the contracts growers signed with Braceros a priority. Secretary Mitchell appointed a departmental task force to review the Bracero program, and its conclusions were echoed in private and Senate reports, viz, minimum and prevailing wage rules need to be better enforced, and Americans deserved the same protections that were afforded Braceros by their contracts.

The 1960 television documentary "Harvest of Shame" strengthened the push for reform, and late in 1961, President Kennedy reluctantly signed a two-year extension of the Bracero program, adding that :"The adverse effect of the Mexican farm labor program as it has operated in recent years on the wage and employment conditions of domestic workers is clear and cumulative in its impact" (quoted in Cross and Sandos, 1981, p. 47). Kennedy directed the U.S. Department of Labor to protect domestic workers, and DOL developed an "adverse effect wage" for each state that used Braceros, requiring employers to pay at least 60¢ hourly in Arkansas in 1962 and $1.00 hourly in California so that Braceros did not adversely affect U.S. workers. The U.S. Department of Agriculture, for the first time, supported the Department of Labor in its efforts to protect U.S. workers, and the number of Braceros dropped to 187,000 in 1963.

By the early 1960s, Braceros were essential for only a few crops. In 1962, for example, 60 percent of the California's peak number of Braceros were employed to pick the cannery tomatoes that were processed into ketchup, and Braceros were over 80 percent of this crop's peak employees. As cotton and other geographically dispersed crops were mechanized, the Bracero program became a non-immigrant program for a handful of farmers, and political support for its continuation weakened. When a mechanical tomato harvester was developed in California in the early 1960s, for example, one-fourth of the Braceros who were being admitted to the United States were no longer needed. This declining need for Braceros and the cumulative impact of years of complaints ended the organized recruitment of temporary Mexican workers in December 1964.

The Bracero Program's Legacy

The Bracero program was terminated unilaterally by the United States for domestic reasons. There were warnings that, just as the program's expansion in the mid-1950s substituted legal Braceros for unauthorized workers, so the program's termination in 1964 would lead to an upsurge in illegal immigration. The Mexican Ambassador to the United States in June 1963 predicted that, if the United States terminated the Bracero program, illegal immigration would increase. According to the Ambassador, "the absence of an [Bracero] agreement would not end the problem [of Mexico to U.S. migration] but rather give rise to . . . the illegal introduction of Mexican workers in the United States" (quoted in Kiser and Kiser, 1979, p. 120).

The Mexican Ambassador was correct. After Operation Wetback in 1954-55, apprehensions of illegal aliens remained below 100,000 until 1965, the year after the Bracero program ended, when they reached 110,000. Apprehensions doubled to 212,000 by 1968, and then doubled again to 420,000 in 1971. By 1976, apprehensions doubled again to 860,000, and they topped 1 million in 1977 (Table 2).

Perhaps the clearest effect of the Bracero program and the illegal immigration associated with it was on farm worker unions. The relative scarcity of farm workers in the mid-1960s due to the termination of the Bracero program made it easier for U.S. farm worker unions to call effective strikes. The Agricultural Workers Organizing Committee (AWOC)—a union of mostly Filipino workers with an ALF-CIO charter—called a strike in Coachella in the spring of 1965 to protest the wage of $1.25 per hour their members were offered when braceros had been paid $1.40. Grape growers agreed to pay $1.40 but refused to recognize the union. When Delano, California growers offered the same $1.25 per hour in July 1965, the AWOC called another strike, but the Delano growers used labor contractors to pick their grapes and refused to grant the 15¢ wage increase sought by the union.

However, braceros were no longer available as an insurance work force. These large grape growers agreed to wage increases after Cesar Chavez's National Farm Workers Association joined the AWOC's grape strike and mounted a boycott against the liquor produced by several conglomerates that also grew grapes. The wage increases were substantial—from $1.25 per hour in 1965 to $1.75 in 1966, or a 40 percent one-year increase. Union organizing and the general scarcity of farm labor in the late 1960s further raised farm wages: California's average farm wage rose from $.95 per hour in 1965 to $1.42 in 1970, and then jumped to $2.43 in 1975 a 156 percent increase in 10 years (Martin, 1989).

Unions complained about the use of "greencard" Mexican immigrants as strikebreakers in the late 1960s. Mexican immigrants with greencard visas were required to report to the Immigration and Naturalization Services (INS) each year to demonstrate that they had some tie to the United States and in January 1967, there were 354,000 Mexican greencard commuter workers, including

Table 2. Foreign Farm Workers[a] and Apprehensions, 1942-1991

Year	Total Admitted	Mexican	British West Indian (including Bahamans)	Number of Illegal Immigrants Apprehended
1942	4,203	4,203		11,784
1943	65,624	52,098	13,526	11,175
1944	83,206	62,170	19,622	31,174
1945	72,900	49,454	19,391	69,164
1946	51,347	32,043	13,771	99,591
1947	30,775	19,632	3,722	193,657
1948	44,916	35,345	3,671	192,779
1949	112,765	107,000	2,765	288,253
1950	76,525	67,500	6,225	468,339
1951	203,640	192,000	9,040	509,040
1952	210,210	197,100	7,910	528,815
1953	215,321	201,380	7,741	885,587
1954	320,737	309,033	4,704	1,089,583
1955	411,966	398,650	6,616	254,096
1956	459,850	445,197	7,563	87,696
1957	452,205	436,049	8,171	59,918
1958	447,513	432,857	7,441	53,474
1959	455,420	437,643	8,772	45,336
1960	334,729	315,846	9,820	70,684
1961	310,375	291,420	10,315	88,823
1962	217,010	194,978	12,928	92,758
1963	209,218	186,865	12,930	88,712
1964	200,022	177,736	14,361	86,597
1965	35,761	20,284	10,917	110,371
1966	24,080	8,647	11,194	138,520
1967	23,959	6,125	13,578	161,608
1968	13,704		10,723	212,057
1969	16,221		13,530	283,557
1970	17,937		15,470	345,353
1971	14,235		12,143	420,126
1972	12,847		11,419	505,949
1973	13,551		11,712	655,968
1974	14,197		11,625	788,145
1975	12,426		11,245	756,819
1976	12,325		11,568	866,433
1977	12,266		11,661	1,033,427
1978	11,581		10,955	1,047,687
1979	12,791		12,246	1,069,400
1980	11,544		11,004	910,361
1981				975,780
1982				970,246
1983				1251357
1984				1246981
1985				1348749
1986				1767400
1987				1190488
1988	10,851[b]			1008145
1989	30,189			954243
1990	18,219			1169939
1991				

[a] Alien workers admitted for temporary employment in U.S. agriculture.

[b] Agricultural workers admitted under the H-2A program. In 1990, almost two-thirds were from Jamaica.

Source: Briggs, 1984, pp. 100 and 132, updated with the INS Statistical Yearbook.

an estimated 65,000 farm workers (London and Anderson, 1970, p. 10). Most of these Mexican greencard commuters seem to have been migrating seasonally to the United States, since a 1970 study put the number of greencard commuters who migrate daily across the border at 70,000, including 40 percent with agricultural occupations (Briggs, 1984, p. 233). These greencard, commuters, whether they came to the United States daily or seasonally, were reportedly willing to work for lower wages than U.S. citizen workers because they had low living costs in Mexico.

Despite gradually increasing illegal immigration and the availability of greencard commuters, U.S. farm wages rose sharply in the early 1970s. As the re-named United Farm Workers (UFW) battled with the Teamsters to represent farm workers, California farm worker unions were able to organize and represent most of the workers employed by major grape and vegetable employers. The wages negotiated for workers on these farms averaged $3.11 per hour by 1975, or 17 percent more than the state's average wage. The minimum wage in UFW contracts rose to $3.61 by 1979, and then, after a series of strikes in the vegetable industry, the entry-level wage jumped to $5.26 by 1982, a 46 percent increase in just three years.

The UFW was most successful in negotiating sharp increases in wages during the mid-1960s and in the early 1980s—in both periods, the union achieved 40 percent wage gains. But the wage gains in the early 1980s proved to be a Pyrrhic victory. The nonfarm corporations that had jumped into vegetable production in the late 1970s to profit from rising consumer demand for fresh fruits and vegetables and to watch the value of their farm land rise learned that both profits and land values have a roller coaster nature, and many of them quit farming in the early 1980s. The farmers who replaced them resisted unions by turning to farm labor contractors who could "control" their workers. The UFW lost contracts as well as the wage gains it won: the UFW went from 120 contracts and 60,000 members in the early 1980s to 20 contracts and 6,000 members a decade later. UFW contracts, which in the early 1980s offered an entry-level wage of $6.00 per hour or more, today offer workers $4.50 hourly in several contracts. The California minimum wage, for reference, rose to $3.35 per hour in 1982, and to $4.25 in 1988.

Some commentators have argued that Mexican migration north is mirrored in the fate of American farm worker unions—when migration increases, unions falter (Majka and Majka, 1982, p. 160-162). Illegal immigration increased in the late 1970s, but it has been hard to determine whether the 1980s' demise of California farm worker unions was due to illegal immigration, internal union problems, or changed employer and government attitudes. The UFW blames employers and the government agency that administers the state's collective bargaining law, while growers point to the union's internal and administrative problem (Martin, 1988a). Most academic studies point to illegal immigration as the major factor in the demise of farm worker unions.

A careful study of one farm labor market demonstrated the importance of immigration to explain events in rural labor markets (Lloyd *et al.*, 1988). The southern California citrus industry was very dependent on Bracero workers in the 1950s. After a failed attempt to substitute U.S. workers for Braceros in the mid-1960s, lemon and orange growers offered letters of employment to ex-Braceros who became greencard commuters. These ex-Bracero immigrants settled in California in the 1970s.

Farmers were able to offer these settled immigrant workers ever higher wages as the profitability of citrus growing rose, but overplanting stimulated by high prices and U.S. tax laws led in the late 1970s to stable wages despite rising prices. The immigrant workers who had become accustomed to rising wages protested by electing the UFW to represent 90 percent of them in 1978 and, for several years, their wages and benefits continued to improve. Growers learned that careful management could enable them to pay high wages and to offer more benefits to fewer workers, while keeping their harvesting costs stable. Growers reaped favorable publicity for their construction-style package of high wages ($6.00 to $10.00 hourly) when seasonal work was available, and maximum unemployment insurance benefits when it was not.

As the ex-Bracero workers who were the core of the citrus work force aged, the costs of providing them with health and pension benefits soared while their hourly earnings declined because they could no longer pick as fast. In 1982, frustrated union workers called a strike that proved to be their undoing. Farm labor contractors(FLCs) moved in to break the strike. They offered younger and often unauthorized workers the same piece rate wages per bin of oranges or lemons picked that union workers got, but the FLCs offered no benefits to workers. Benefit costs were adding 40 to 60 percent to the cost of older unionized workers, but only 20 to 30 percent for Social Security and other payroll taxes for younger FLC workers, and growers switched to FLCs. There were 5,000 unionized lemon harvesters in the major producing area in 1978, and none in 1985.

This example of the transformation of a particular labor market under conditions of rising immigration demonstrates three important points. First, most farmers did not use Bracero labor efficiently (because there was no penalty for inefficient use), so farmers and workers could profit after a period of readily available farm labor from more efficient labor usage. Many of the inefficient patterns of labor usage that were common in the 1950s have re-appeared during the 1980s, such as having workers be available six or seven days but then offering them work for only two to three hours for four or five days. If the labor supply were to tighten in the 1990s because of NAFTA-inspired job growth in Mexico, labor-using efficiencies similar to those experienced as a result of unions in the 1970s might be realized.

Second, the apparent mutual benefits from using farm labor more efficiently are temporary if the work to be done is climbing ladders and picking fruit into 60 pound bags. Older workers have a lower productivity in such jobs then younger workers, so that, after age 40, they tend to drift out of harvesting jobs that depend on strength and endurance. U.S. employment and training programs should be cognizant of the fact that a 30-year old picker earning $10.00 hourly may not be able to pick fast enough to earn even the minimum wage at 40.

Third, the citrus labor market example demonstrates that competition between new immigrants and U.S. workers often takes the form of competition between subcontractors for jobs. Instead of illegal aliens and U.S. workers lining up separately, and the illegals being selected because they are willing to work hard and scared, the more usual case is that the unionized harvesting cooperative shrinks or goes out of business because growers switch to FLCs to supply them with harvest workers. There is frequently little animus between the unionized workers who are out of work and the FLC employees who replace them. In many cases, they are friends or relatives, and the displaced union workers tend to blame greedy growers and ineffective state agencies for their plight.

The United States paved the way for Mexicans to migrate to the United States by permitting their recruitment and tolerating their illegal entry. Mexican policies added a supply-push to these U.S. demand-pull policies: Mexico neglected the rural poor in the areas that were becoming dependent on the U.S. labor market. Finally, networks developed to link U.S. jobs and workers in Mexican villages, and they have been refined over decades in ways that make it virtually impossible to halt migration suddenly. The next three chapters explore demand-pull, supply-push, and network factors in some detail to determine how they are likely to be affected by NAFTA.

4. The Demand-Pull in the United States for Mexican Workers

The expansion of U.S. agriculture and changes in the farm labor market and farm work force have created a demand for rural Mexicans in rural America. This section explores how rural Mexicans responded to these demand-pull pressures in rural America by immigrating to the United States, both legally and illegally. NAFTA may eventually dampen these demand-pull pressures, but they are likely to persist in the 1990s.

Rural Mexican immigrants have traditionally found their first U.S. jobs in agriculture, a result of the periodic private and public recruitment of Mexican farm workers since World War I. The U.S. farm labor market today is the point of entry for many U.S. immigrants. Of the almost six million immigrant workers who were in the United States legally by the end of the 1980s, up to 1.5 million or 25 percent did at least some farm work in this country, reflecting the rapid rate at which workers enter and leave the seasonal farm work force.[8] These data suggest that if the 1980s immigration patterns continue in the 1990s, up to one-fourth of the working-aged U.S. immigrants who arrive during the decade are likely to be Mexicans whose initial U.S. employment is in fruit and vegetable agriculture.

U.S. fruit, vegetable, and horticultural specialty (FVH) agriculture has evolved under conditions in which immigrant workers have been available when and where they are needed. For the past five decades, these immigrant workers in the southwestern United States have been mostly Mexicans. The symbiotic relationship between rural Mexican workers and rural U.S. jobs permitted labor-intensive agriculture to expand as the demand for fruits and vegetables increased, with U.S. farmers confident that seasonal workers would be available to hand-harvest crops at what they deemed to be reasonable wages. During the 1980s, rural Mexicans were drawn into rural America in a demand-pull fashion because of the continued expansion of FVH agriculture, the spread of Mexican workers from the southwest throughout U.S. agriculture, and an apparent speeding-up of the revolving door through which Mexicans and other farm workers leave seasonal jobs as soon as possible.

Expansion

The value of U.S. fruit, vegetable, and horticultural specialty production rose by 65 percent during the 1980s to $28 billion, making these mostly labor-intensive commodities worth about one-sixth of total farm sales. FVH sales rose much faster than the value of all farm commodities, which rose about 18 percent to $170 billion in 1990. In the 1987 Census of Agriculture (COA), FVH farms accounted for 40 percent of farm labor expenditures and, since they tend to employ workers only seasonally, they account for an even higher share of seasonal farm worker employment.

There is no employment index which demonstrates how this expansion of FVH agriculture increased the demand for Mexican workers in U.S. agriculture. Most commodity-related data includes three elements: acreage, production, and cash receipts. These indicators can not easily be translated into employment needs. Acreage measures for FVH crops are incomplete: they exclude acreages in greenhouses and nurseries, which account for about one-sixth of farm labor expenditures. Acreage data can also be misleading: the acreage devoted to the production of U.S. fruits and vegetables has been stable since 1970, but higher yields have increased fruit and vegetable production by almost 50 percent since then. Many of the commodities which had big increases in yield or production are harvested by seasonal workers, such as broccoli and cauliflower (production rose 116 and 136 percent, respectively, in the 1980s).

The increased production of U.S. fruits and vegetables during the 1980s probably increased the demand for seasonal farm workers, but inadequate farm labor data instead show decreasing farm worker employment. The USDA's Quarterly Agricultural Labor Survey (QALS) reports that the employment of hired workers in July fell almost 50 percent over the past 15 years, from 2.1 million in 1976 to 1.1 million in 1991. Employment fell most in California, by 100,000, but California increased its share of July farm employment from 15 percent to 20 percent because farm employment fell faster in other states. This decline in hired worker employment must be interpreted with caution, because farm production data would suggest that employment should have been increasing. Other data indicate that more farm employment is handled by farm labor contractors and other agricultural service firms whose employment may not be fully reflected in the QALS.

Labor-intensive agriculture expanded during the 1980s because of an increased demand for fruits and vegetables. Even though farm employment data are inadequate to indicate how expanded FVH production is a demand-pull factor which attracts Mexican migrants to the United States, an example can illustrate the underlying processes at work. FVH employment depends on domestic and export demand for FVH commodities. The U.S. consumption of most farm commodities increases about 1 percent annually due to population growth, but the demand for FVH commodities increases another 2 or 3 percent annually, or about as much as personal incomes typically go up, because Americans tend to spend about the same percentage more on FVH commodities as their incomes rise. For example, if personal incomes rise 2 percent, then expenditures on broccoli, cauliflower, and similar commodities also rise 2 percent.

Population and income growth during the 1980s translated into an expanded demand for seasonal farm workers in the United States. During the 1980s, the per capita consumption of fresh broccoli almost tripled from 1.6 to 4.5 pounds. Broccoli is hand-harvested, and its production requires an average 52 hours per acre to produce. There was a 50 percent or 40,000 acre increase in U.S. broccoli acreage during the 1980s, so 2.1 million additional hours of labor were needed in the United States to produce broccoli. Broccoli is harvested over a long-season, enabling workers to average 500 to 1,000 hours annually in this commodity. These data suggest that the increased production of broccoli, a commodity worth just 1 percent of the total value of FVH commodities, required 2,000 to 4,000 additional seasonal workers to handle the additional 1980s production.

U.S. imports of FVH commodities have been rising, but the United States is a net exporter of these labor-intensive commodities. Imports of some fruits and vegetables have increased dramatically – from 100 to 1,000 percent during the 1980s– but from such low starting points that imports still have only a small share of the U.S. market. For example, fresh broccoli imports increased ten-fold during the 1980s, but they accounted for only 2 percent of U.S. consumption in 1991, and U.S. exports of fresh broccoli were 7 times imports. Similarly, U.S. consumption, production, and imports of fresh tomatoes each rose by 30 to 40 percent during the 1980s, keeping the import share of the expanding market constant and demonstrating the importance of looking at more than just the percentage increase in imports to project the demand for seasonal farm workers in the United States.

U.S. fruit and vegetable production should continue to increase in the 1990s and thus continue to require about 2.5 million workers sometime during the year to fill the equivalent of 1 to 1.5 million year-round jobs. Projecting stable farm worker employment – or expecting the number of individuals and the number of farm jobs to remain at their current levels, does not preclude some shifting of fruit and vegetable production to Mexico because of NAFTA and mechanization. However, neither NAFTA nor mechanization is likely to offset the projected expansion of FVH production in the 1990s enough to shrink the farm work force.

This expected stability of seasonal farm worker employment is not necessarily incompatible with Bureau of Labor Statistics (BLS) trends and projections of agricultural employment (Table 3). BLS projected a 4 percent decline in employment in the agricultural industry between 1988 and 2000, but a 27 percent increase in agricultural services employment. This projection is consistent with the often reported tendency of farmers to hire fewer workers directly and to hire more through farm labor contractors, who tend to employ recently arrived immigrant workers. There is concern that U.S. food processing jobs will migrate to Mexico, but BLS projected fewer job losses in these manufacturing industries than in crop and livestock agriculture.

BLS also projected decreases in farmer and farm worker occupations that are not offset by increases in workers with farm manager and nursery occupations. These projections acknowledge the shift from direct to indirect hiring in agriculture but they still expect farm employment to shrink. The projected 20 percent increase in nursery workers may be most indicative of trends in FVH agriculture.

Table 3. Trends and Projections of Agricultural Employment: 1976, 1988, & 2000

		Employment (000)			Percent Change	
Industry	SIC[1]	1976	1988	2000[2]	1976-88	1988-2000
Agriculture	01-09	3,371	3,259	3,125	-3	-4
– Livestock Products	02, 01	1,105	777	606	-30	-22
– Crop Products	01, 02	1,749	1,516	1,290	-13	-15
– Ag. Services	07, 08, 09	517	966	1,228	87	27
Food Manufacturing	20	1,690	1,636	1,563	-3	-4
– Canned & Frozen Food	203	252	249	228	-1	-8
Wholesale Groceries Trade	514	602	822	840	37	2
U.S. total		89,942	118,104	136,211	31	15
Occupation						
Agriculture & Related			3,503 [3]	3,334		-5
– Farm Workers			938	785		-16
– Nursery Workers			46	55		20
– Farmers			1,141	875		-23
– Farm Managers			131	160		22
U.S. Total			118,104	136,211		15

[1] Standard Industrial Classification

[2] Moderate projection

[3] According to BLS, 44 percent of the workers with agricultural occupations in 1988 were self-employed or unpaid family workers.

Source: Bureau of Labor Statistics Projections published in the Monthly Labor Review, November 1989.

The Bureau of Labor Statistics (BLS) prepared new projections of agricultural employment in 1991. These more recent projections reinforce earlier BLS expectations that crop and livestock workers will decrease in number while the number of agricultural service workers will soar (Table 4). BLS apparently changed its mid-1970s baseline employment levels by switching, for example, workers from crop to livestock products. The most important trend highlighted by the updated projections is the more than doubling of agricultural services employment between 1975 and 1990 and the projected 34 percent increase to 2005. Many of these ag service workers are farm workers brought to farms by the FLCs who tend to employ recently-arrived immigrants. It is also noteworthy that the more recent BLS employment projections expect frozen and canned food employment to increase slightly rather than to decrease.

The most recent BLS projections expect a decline in the number of farm workers and farmers, but the percentage decline in farm workers was reduced from 16 percent over 12 years to 11 percent over 15 years. The projected growth in nursery workers was raised from 20 percent over 12 years to 30 percent over 15 years, producing one nursery worker for each nine farm workers by 2005.

NAFTA may increase fruit and vegetable production in Mexico for the U.S. market, but the shift of production to Mexico is likely to be gradual. The crops whose production may increase in Mexico are also those whose U.S. consumption is rising fastest, so that imports and U.S. production can increase simultaneously. Finally, it should be noted that Mexico's primary competitive advantage is climate, making it unlikely that Mexico will displace the 3/4 of U.S. FVH production that occurs in the spring, summer, and fall seasons. For these reasons, U.S. farm worker employment should not shrink in the 1990s.

Table 4. Trends and Projections of Agricultural Employment: 1975, 1990, & 2005

		Employment (000)			Percent Change	
Industry	SIC[1]	1975	1990	2005[2]	1975-90	1990-2005
Agriculture	01-09	3,459	3,276	3,080	-5	-6
– Livestock Products	02, 01	1,410	1096	864	-22	-21
– Crop Products	01, 02	1552	1097	781	-29	-29
– Ag. Services	07	428	975	1304	128	34
Food Manufacturing	20	1,658	1,668	1,560	1	-6
– Canned & Frozen Food	203	232	247	250	6	1
U.S. total		87,666	122,570	147,190	40	20
Occupation						
Agriculture & Related			3,506	3,665		5
– Farm Workers			837	745		-11
– Nursery Workers			64	83		30
– Farmers			1074	850		-21
– Farm Managers			149	173		16
U.S. Total			122,573	147,191		20

[1] Standard Industrial Classification

[2] Moderate projection

Source: Bureau of Labor Statistics Projections published in the Monthly Labor Review, November 1991.

Mexicanization

The number of farm workers is likely to be stable in the 1990s, but their composition may change to include more Mexican immigrant workers, thus adding to demand-pull pressures that draw Mexicans into the United States. Data on farm worker characteristics are woefully inadequate. The monthly Current Population Survey (CPS) of 60,000 households includes about 1,500 who worked in agriculture during the previous week, but this household-based survey is believed to miss many of the recently-arrived immigrant workers employed in FVH agriculture.

Until 1987, the CPS included a December supplement which asked if anyone in the household had done farm work for wages during the previous 12 months and, based on CPS-expansion factors, there were 2.5 million hired farm workers. These farm workers were 78 percent white, 14 percent Hispanic, and 8 percent Black and other (Figure 3). White workers were the majority or plurality in every region of the United States, including the Pacific states of California, Oregon, and Washington, where white farm workers outnumbered Hispanics 54 to 44 percent.

The CPS allegedly generates the "wrong" ethnic mix of farm workers and the "wrong" distribution of workers across commodities. Workers who were employed in more than one commodity in 1987 were assigned to the commodity in which they did the most days of farm work. On this basis, only 20 percent of all hired workers – 518,000 of 2.5 million – worked only or mostly or only in FVH commodities. Over 1.1 million workers, by contrast, worked mostly or only on grain and other field crop farms.

The annual CPS supplement was discontinued after 1987, but a simple comparison of Immigration and Naturalization Service (INS) data from the illegal aliens who applied for Special Agricultural Worker (SAW) status and CPS data show sharp differences in worker characteristics. There were 1.3 million Hispanic illegal aliens[9] who applied for temporary legal status under the Immigration Reform and Control Act (IRCA) of 1986 by providing evidence that they had done at least 90 days of farm work in the United States in the 12 months ending May 1, 1986. The CPS reported 2.5 million total hired farm workers in 1985 and 1987, including 326,000 Hispanic farm workers in 1985 and 338,000 in 1987. Even if all of the Hispanic farm workers in the CPS were illegal aliens, and if all of the SAW applicants qualified, the CPS missed almost 3 Hispanic farm workers for every 1 that it found.

An examination of the SAW applicant data suggests there was both fraud in the sense that far too many aliens claimed to have done farm work, and that the CPS missed most of the Hispanic farm workers in the United States. The INS has been slow to adjudicate SAW applications: even though SAW applications were to have been adjudicated within 12 months of the November 30, 1988 application deadline, the INS has made final determinations on only 78 percent of them. The INS approved 93 percent of the SAW applications, and these 920,000 approved SAWs, plus 70,000 applicants under the general legalization program who had agricultural occupations, suggests that the U.S. government is acknowledging that 1 million mostly Hispanic illegal aliens were employed in U.S. agriculture in the mid-1980s.

IRCA included special provisions whereby alien farm workers could be admitted if labor shortages were anticipated. The statutory formula to determine whether farm labor shortages were anticipated led to a new survey of farm workers, the National Agricultural Workers Survey (NAWS). In the course of finding that there were no farm labor shortages, the Department of Labor-sponsored survey obtained demographic data on the workers employed in most of crop agriculture. NAWS data are probably the most reliable demographic data available on 80 percent or 2 million of the nation's estimated 2.5 million hired farm workers.

The NAWS found that three-fourths of all farm workers in Seasonal Agricultural Services (SAS) or crop agriculture[10] are minorities, usually immigrants from Mexico who have been in the United States for less than 10 years (Figure 4). The NAWS reported that most of these farm workers are married men who are poorly educated and who live with their families at their U.S. work sites. However, 40 percent of the married men are unaccompanied by their families at the worksite. In farm worker households, almost everyone works—85 percent of the household members who are 15 and older have a job sometime during the year.

Figure 3. CPS Profile of 2.5 Million Farm Workers: 1987

1. Demographic Characteristics: Most farm workers are young white men.
    - 80 percent are male; 70 percent are 34 or younger (median age 26); and 2 percent are 14 to 17 years of age.
    - 78 percent are white; 14 percent are Hispanic; and 8 percent are Black and other; whites are the youngest farm workers (median age 24), Hispanics (29), and Blacks oldest (30).
    - 23 percent of all hired farm workers have 8 or fewer years of schooling; 50 percent had 12 or more years of education. Hispanic farm workers had the least education: 56 percent have 8 or fewer years of education, versus 35 percent of Blacks and 16 percent of whites. Among farm workers 25 and older, 26 percent had 8 or fewer years of education, including 72 percent of the older Hispanic workers.
    - Midwestern Corn Belt states such as Iowa and Illinois include 19 percent of all farm workers, followed by the Pacific states of California, Oregon, and Washington, and then the Lake states of Wisconsin, Minnesota and Michigan (12 percent each).

2. Farm work and Earnings:
    - Workers average $3,400 for 112 days of farm work, and $3,300 from nonfarm work, for $6,700 total earnings. Daily farm earnings of $30 suggest an average wage of $3.76 hourly for an 8 hour day.
    - Hispanics had the highest average daily farm earnings ($32) and did the most days of farm work (139), so their $4,500 annual farm earnings exceeded those of whites ($3,200) and Blacks ($2,700)..
    - Most farm workers worked primarily in grains and field crops (45 percent), or with dairy or livestock production (34 percent). Only 21 percent worked mostly with FVH commodities. Almost 50 percent of the Hispanic farm workers worked with FVH commodities, and almost one-third of the Black farm workers worked in tobacco and cotton production.

Source: Oliveira and Cox, 1989.

The NAWS found that 40 percent of SAS farm workers are U.S. citizens and 60 percent are immigrants. Among the immigrants, almost 40 percent were temporary legal residents or Special Agricultural Workers (SAWs), another 25 percent were (greencard) permanent resident alien

Figure 4. NAWS Profile of About 2 million SAS Farm workers: 1989-91[11]

1. Demographic Characteristics: Most farm workers are male, young, married, and immigrants with a SAW status
   - 73 percent are male; 67 percent are 35 or younger (median age 31); but 17 percent are 20 or younger
   - 58 percent are married; 52 percent have children, but 40 percent do farm work unaccompanied by their families
   - 60 percent are foreign born, including 55 percent who were born in Mexico
   - 70 percent are Hispanic
   - 29 percent are SAWs (580,000 of an estimated 2 million), and they have a median 7 years of U.S. farm work experience
   - 10 percent are unauthorized (200,000 of 2 million) and these young workers(median age 23) have only 2 years of U.S. farm work experience
   - 53 percent of all SAS workers have 8 or fewer years of education (median 8 years); 65 percent speak primarily Spanish
   - 57 percent of the workers live with their families at the work site; 85 percent of the persons 15 and older in households work
2. Farm Work and Earnings: Most workers experience extensive seasonal unemployment and have low annual earnings
   - Workers have a median 8 years experience doing SAS farm work; U.S. citizens and greencard immigrants average 11 to 12 years, while unauthorized workers average just 2 years experience
   - Workers on average spend 50 percent of the year or 26 weeks doing Seasonal Agricultural Services work for 1.7 farm employers, 20 percent or 10 weeks unemployed, and 15 percent or 8 weeks doing non-SAS work and 15 percent or 8 weeks traveling abroad
   - 75 percent of all crop workers are employed in fruits or vegetables
   - 77 percent are hired directly by growers, usually to harvest crops
   - Median earnings were $4.85; work weeks averaged 37 hours, for SAS earnings of $180 and, for 26 weeks, $4,665
   - Less than half of the workers have Unemployment Insurance and Workers Compensation coverage; 21 percent have off-the-job health insurance
   - 28 percent live in employer-provided housing
3. Other Work and Income: Farm workers are poor but not dependent on welfare
   - 46 percent of all SAS workers have below poverty level incomes, the poverty rate is highest for unauthorized workers(77 percent)
   - 36 percent also do non-SAS farm work; such work paid a median $4.50 per hour and is preferred to farm work, e.g., layoffs push these workers into farm work
   - 58 percent are unemployed sometime during the year; 50 percent of these unemployed are jobless less than two months; only 28 percent of the jobless farm workers apply for unemployment insurance
   - 40 percent of the workers spend an average 19 weeks abroad each year
   - Median individual incomes are $5,000 to $7,500; median family incomes are $7,500 to $10,000; 50 percent of the families are below the 1989 poverty line of $12,675 for a family of four
   - 55 percent of the workers own assets, usually a vehicle
   - 16 percent get food stamps; 3 percent Aid to Families with Dependent Children

Source: Mines, et. al., Findings from the NAWS 1990 (Washington: USDOL, Office of Program Economics), Research Report Number 1, 1991 and additional data analysis. These data are preliminary, and their interpretation is my own.

immigrants, 16 percent got U.S. legal status through other programs, such as Guatemalans who applied for asylee status, and about 20 percent of the immigrant workers were undocumented in surveys conducted between 1989 and 1991. About 60 percent of the estimated 200,000 unauthorized immigrant workers arrived within the past five years, i.e., after IRCA was enacted.[12]

Seasonal Agricultural Services (SAS) workers do farm work for 1.7 farm employers for half of the year at wages 14 percent above the federal minimum of $4.25 hourly. NAWS workers averaged $4.85 for 37 hours of work per week while they were doing farm work, and $180 weekly for 26 weeks of SAS work generates annual farm earnings of $4,665, about 72 percent of the $6,465 poverty-level income of an individual in 1990. SAS farm workers average another 10 weeks of unemployment searching for farm and nonfarm jobs. Almost one-third of the farm workers live in employer-provided housing, usually at no charge.

The NAWS found that most Seasonal Agricultural Services (SAS) workers were employed in FVH commodities—90 percent worked in these commodities. Vegetable farms employed 43 percent of the sample workers sometime during the year; fruits and nuts 32 percent; and nursery and horticultural specialty operations 15 percent. This distribution of workers across commodities differs significantly from the distribution of hired workers in the CPS and from the distribution of labor expenditures in the 1987 Census of Agriculture (COA). In the COA, all crop farms – field crop and FVH – reported $8.2 billion in total labor expenditures, and 38 percent were made by field crop farms. However, only 7 to 10 percent of the NAWS workers were employed on the field crop farms that dominate COA labor expenditures.[13] The NAWS reports that 43 percent of the workers were employed in vegetables, even though vegetables accounted for just 24 percent of COA labor expenditures.

About three-fourths of all workers interviewed by the NAWS are employed directly by growers; one-fourth are employed by FLCs. Workers normally prefer to be employed directly by growers because wages are higher (in part because the FLC does not have to be paid a 5 to 15 percent commission for recruitment and supervision services). Workers hired directly by growers sometimes receive free on-farm housing, thus eliminating charges for housing and rides to work. Most workers find farm jobs through friends and relatives.

Over one-third of the farm workers in the NAWS also did nonfarm work. Even though it paid slightly less per hour than farm work, nonfarm work was preferred by most workers interviewed while doing farm work, i.e., layoffs pushed these workers into farm work, they were not attracted to farm work by its higher wages. Nonfarm work in services such as janitorial or clean-up businesses or in construction is felt by many farm workers to be more stable and to offer them more opportunities for upward mobility.

As recent immigrants, many farm workers spend part of each year abroad. The average SAS worker spent 8 weeks abroad during the year. This is too short a time to earn a significant income abroad or even to manage e.g. a farm or business in the home village. There are significant differences among subgroups of workers in terms of the time they spend abroad; the 40 percent of the NAWS sample workers who went abroad spent an average 19 weeks there in 1989. But even this is probably too short a time abroad to work or earn a significant income; most of the time abroad is devoted to vacation and visiting relatives.

Immigrants are a majority of all farm workers, and an even larger share of the new entrants. The dominance of immigrants affects the structure and functioning of the farm labor market, e.g. non-English-speaking immigrant workers often require intermediary bilingual FLCs or foremen to help them find housing and other social services; they are usually more willing to accept variation

Figure 5. NAWS Profile of About 840,000 Migrant SAS Farm workers: 1989-91[14]

1. Demographic Characteristics: Migrant are more male, more Hispanic, and more likely to be alone at the worksite than non-migrant farm workers
   - 82 percent are male; versus 66 percent of non-migrants
   - 59 percent are married, but 59 percent do farm work without their families accompanying them, versus 28 percent for non-migrant farm workers
   - 94 percent are Hispanic, including 80 percent who were born in Mexico
   - 45 percent are SAWs (378,000 of an estimated 840,000), and 22 percent or 185,000 are unauthorized
   - Migrants are 42 percent of the SAS work force, but they fill 62 percent of the harvest jobs

2. Shuttle and Follow-the-Crop Migrants: Over 83 percent of all migrants shuttle into and out of the United States, only 33 percent follow the crops within the United States
   - Among all SAS workers, 35 percent shuttle into and out of the United States (700,000), only 14 percent (280,000) follow the crops within the United States, and 7 percent (140,000) shuttle into the United States and then follow the crops. Among 100 migrant workers, 83 are shuttle immigrants, 33 are follow-the-crop migrants, and 17 first shuttle into the United States and then follow the crops.
   - SAWs are most likely to be follow-the-crop migrants, east of the Mississippi river (excluding Florida), SAWs are 1/6 of the farm workers but 2/3 of the follow-the-crop migrants. West of the Mississippi(including Florida), SAWs are 42 percent of the farm workers but 54 percent of the follow the crop migrants.
   - Among shuttle immigrants, 61 percent are not accompanied by dependents at their U.S. worksites. Among follow-the-crop migrants, 60 percent are not accompanied by dependents at their U.S. worksites. The mean number of children accompanying each shuttle immigrant is 0.54, and 0.41 for follow-the-crop migrants, suggesting 378,000 shuttle immigrant children and 114,800 follow-the-crop migrant children.

Source: Mines, et. al., Findings from the NAWS 1990 (Washington: USDOL, Office of Program Economics), Research Report Number 1, 1991 and additional data analysis. These data are preliminary, and their interpretation is my own.

in days worked and piece rate earnings than U.S.-born workers; and immigrants are more likely to pay without question charges for housing, transportation, and eating arrangements in areas with farm jobs. Such behavior makes immigrants preferable to U.S. citizens in the eyes of most farm employers.

Most federal farm worker assistance programs serve the Migrant and Seasonal Farm worker (MSFW) subset of those employed in agriculture, usually by defining seasonal workers as persons employed less than year-round in agriculture, and then defining migrant workers as the subset of seasonal workers who cross a geographic boundary in order to do farm work. Although the criteria for defining seasonal and migrant are arbitrary (e.g. does year-round begin after six or nine months of farm work; what is the appropriate boundary to be crossed or distance traveled to be considered a migrant?) a definition is necessary before household survey data can be analyzed to determine migrant numbers and characteristics and trends in them.

The NAWS defined migrant workers as those who traveled 75 or more miles from their usual residences in search of farm work, and 42 percent of the workers interviewed made such a move. Compared to non-migrant workers, the migrants interviewed in the NAWS are more likely to be male, Hispanic, and twice as likely **not** to be accompanied by their families at their farm worksites. Similarly, about 86 percent of the migrants are immigrants, versus 60 percent of all workers.

The NAWS separated migrants into 2 groups: shuttle migrants, or perhaps more accurately shuttle immigrants, since they make a single move each year from a usual residence abroad to a single U.S. worksite, and follow-the crop-migrants, who more closely conform to the migrant stereotype by moving at least 75 miles from one U.S. farm job to another. There is also a third category: migrants who shuttle into the United States and then, once here, they follow the crops.

Among all SAS workers, 35 percent, or 700,000, shuttle into and out of the United States (35 percent of 2 million is 700,000). About 14 percent, or 280,000, follow the crops within the United States, and 7 percent, or 140,000, first shuttle into the United States and then follow the crops. These data mean that, for every 100 migrant workers in the NAWS, 83 are shuttle migrants, 33 are follow-the-crop migrants, and 17 are both.

SAWs are the type of worker most likely to be follow-the-crop migrants, i.e., recently arrived but legal immigrants are most likely to follow the crops. East of the Mississippi river (excluding Florida), SAWs are 1/6 of the farm workers but 2/3 of the follow the crop migrants. West of the Mississippi (and including Florida), SAWs are 42 percent of the farm workers but 54 percent of the follow-the-crop migrants.

Among shuttle immigrants, 61 percent are not accompanied by dependents at their U.S. worksites. Among follow-the-crop migrants, 60 percent are not accompanied by dependents at their U.S. worksites. The mean number of children accompanying each shuttle immigrant is 0.54, and 0.41 children accompany each crop migrant. These data suggest there are 378,000 shuttle immigrant children and 114,800 follow-the-crop migrant children.

A major finding of the NAWS is that Mexican immigrants are spreading throughout U.S. agriculture. The NAWS defined the states west of the Mississippi River and Florida as the traditional settlement area for Mexican immigrants, and the remaining states as the new "Latinization" area. Since IRCA in 1986, there appears to be an accelerating "Mexicanization" of the U.S. farm work force that is very noticeable in states such as North Carolina and Virginia. This Mexicanization occurs as U.S. citizen workers find better nonfarm jobs, and as pioneer Mexican workers and Farm Labor Contractors (FLCs) forge networks to bring Mexican immigrants into the area. North Carolina provides a dramatic example of this Mexicanization process: in 1980, there were reportedly less than 10 percent Mexicans among the state's 210,000 farm workers during the peak harvest. According to employer and worker testimony to the Commission on Agricultural Workers, Mexicans had become a majority of the state's 140,000 peak farm work force by 1990.

The Revolving Door

An estimated 5 to 10 percent of the U.S. citizen and immigrant farm workers who are Migrant and Seasonal Farm Workers(MSFWs) tend to abandon farm work each year, so that 100,000 to 200,000 new entrants are required to keep the farm work force at 2 million. Although some farm workers who find nonfarm jobs return to farm work, and some who return to Mexico become U.S. farm workers again when their savings are depleted, age works against those who want to return in the usual entry port of harvest work. Although older workers who do not move up the job ladder to be equipment operators or pruners can continue to work at the minimum wage as hoers and weeders, they are usually pushed out of the piecerate harvesting jobs that are the central focus of governmental attention because harvest labor shortages could lead to crop losses.

The revolving farm labor market door turns fastest when there are nonfarm jobs available. Econometric studies of the linkages between farm and nonfarm labor markets in the 1960s indicate that more U.S. citizen workers get out of agriculture as unemployment falls, suggesting that a lack of nonfarm jobs "traps" workers in agriculture (Schuh, 1967). It is still true that nonfarm jobs tend to be preferred by farm workers because they offer more stable employment, better benefits, and more opportunities for careers. During the 1980s, for example, farm wages rose slower than nonfarm wages, and as unions lost contracts, workers saw fewer opportunities to obtain nonfarm wages and benefits in agriculture. Such farm labor conditions made many farm workers anxious to switch into year-round landscaping, janitorial, and other nonfarm jobs. The resulting vacuum in the farm labor market drew more rural Mexicans into the United States.

The combination of expanded FVH production, the Mexicanization of rural America, and a revolving door harvest labor market explain why there was such a strong demand-pull in the United States for rural Mexicans in the 1980s despite a stable overall farm work force. These demand-pull forces should continue to attract rural Mexicans into the United States in the 1990s, although perhaps at a slower rate than in the 1980s.

5. Supply-Push in the 1990s

Mexicans responded to the demand-pull pressures from U.S. agriculture in the 1980s for three major reasons: (1) the Mexican work force grew extraordinarily fast; (2) Mexican farmers faced a cost-price squeeze in which their costs for fertilizers and other inputs rose faster than the prices they received for the corn and beans they sold; and (3) Mexico's urban economy could not offer enough jobs to new work force entrants and displaced and disillusioned farmers. These supply-push factors made Mexicans willing to migrate, and many came to the United States because sophisticated networks anchored their villages to jobs in the United States. A culture of migration took hold in many rural areas of Mexico; young people expected to leave the village to earn enough money in the United States to marry, making emigration a normal part of coming of age.

There appear to be no firm Mexican population and work force data. Projections based on Mexico's 1980 Census of Population (COP), which found 69 million Mexicans, produced estimated 1990 populations that ranged from the World Bank's 86 milion to the U.S. Agency for International Development's 88 million(U.S. Agency for International Development, 1992). However, Mexico's 1990 COP enumerated only 81 million people, even though the Mexican Census Bureau had projected a 1990 population of 86 to 89 million.

There is considerable discussion of the low COP count. Assessments of the Mexican COP conclude that the 1990 COP undercounted Mexico's population by two to six million; that the fertility of Mexican women dropped sharply, from almost seven births per woman in the 1970s to four today; and that 1.5 to 3 million Mexicans emigrated permanently in the 1980s. If all Mexicans had been enumerated, the Mexican population would have been, according to these estimates, 83 to 87 million.

The growth rate of the Mexican population is also uncertain. The Mexican census reports that the growth rate was 2.6 percent annually in 1980, so that there were 1.8 million more Mexicans each year. By 1990, the COP reported a 2.3 percent growth rate, implying an additional 2 million Mexicans annually if the population in 1990 was 86 million. The World Bank projects a slowing of population growth to 1.8 percent annually in the 1990s, giving Mexico a population of 103 million in 2000.

The exact size of Mexico's population may not be known, but there is no doubt that it is growing at least twice as fast as the U.S. population, which is growing at the rate of one percent annually. Furthermore, the Mexican population is much younger than the U.S. population: 38 percent of Mexicans are under age 15, versus 22 percent of Americans. The relative youth of Mexico's population gives it a momentum that practically guarantees Mexico will add almost as many people annually (1.5 million) during the 1990s as the United States (2 million), which is almost three times more populous.

Mexico's population grew much faster in the 1960s and 1970s, and the legacy of this baby boom began to enter the labor force in the 1980s. Mexican labor force data are elusive: Mexico is not a member of the Organization for Economic Cooperation and Development (OECD), and the U.S. Department of Labor's Handbook of Labor Statistics includes labor force data on 10 foreign countries, but not Mexico. The ILO's Yearbook of Labor Statistics provides summary labor force data from the decennial COP's of its member nations, but even this series will not include the 1990 COP until 1993 or 1994. The World Bank's World Development Indicators include 8 tables of data on Human and Natural Resources for 125 countries, but these data do not include labor force or employment data.

Mexico's 1980 COP provides benchmark labor force and employment data. Between 1970 and 1980, Mexico's economically active population rose from 13 to 22 million, or 900,000 annually. About three-fourths of this work force in 1980 was in four major sectors (Table 5): "not adequately defined" (29 percent), agriculture (26 percent), manufacturing (12 percent), and community, personal, and social services (11 percent). Less than half of Mexico's 1980 work force were wage and salary workers, and these wage and salary workers were concentrated in the same four economic sectors.

Mexico's work force grew during the 1980s, but there is disagreement over how much it increased. The 1989-90 labor force has been estimated to be 26 to 30 million. If it is 26 million, then the work force grew just half as fast during the 1980s as it grew during the 1970s. There was little change in the distribution of Mexico's growing work force during the 1980s. The data from the 1990 Mexican COP are not yet available to make a direct comparison to the 1980 industrial distribution but, for the sectors that can be compared, manufacturing and agriculture, industrial shares of the work force did not change. Construction's share of the labor force rose significantly, and changes in the other sectors cannot be readily compared.

Table 5. Mexico's Labor Force by Industry in 1980 and 1989

	1980		1989
	All Workers	Wage & Salary Workers	
Agriculture	26%	13%	26%
Manufacturing	12%	17%	13%
Construction	6%	8%	10%
Trade and Hotels/Restaurants	8%	7%	--
Community and Social Services	11%	14%	--
Not Adequately defined	29%	28%	--
Others	8%	13%	50%
Total (percent)	100%	100%	99%
Total (millions)	22.1	9.8	26.3[1]

[1] The Mexican Labor Ministry reports that the 1990 labor force was 29.8 million.

Sources: 1980 data are from the International Labor Office. *Yearbook of Labour Statistics* (1990, p. 218); 1989 data are from Hufbauer and Schott, 1992, p. 108.

About one-fourth of Mexico's workers had farming occupations in 1980; 22 percent were laborers; and 16 percent were not classified into an occupation. Professionals and managers, by contrast, were only 8 percent of the work force. Occupational data for 1990 are not yet available.

Mexican leaders often describe their employment problem as a case of too many new labor force entrants, too much informal employment in the urban areas where 71 percent of the population lives, and too many poor farmers. The labor force growth of the 1980s and 1990s simply reflects rapid population growth in the past: Mexico will have about one million new job seekers each year during the 1990s, and, to absorb them, Mexico's GDP must grow, by one estimate, by at least 6 percent annually (Cornelius, 1991, p. 11). Mexico's GDP in 1990 was $238 billion, and a (real) 6 percent growth rate would add $14.3 billion annually to GDP, implying that the cost in additional GDP to create each additional job in Mexico is $14,300. During the 1980s, Mexico's GDP grew by only 1 percent annually.

Informal employment is common in Mexico. The Federal Labor Law of 1970, as amended, regulates the contracts employers and workers in formal employment relationships must have, and establishes a long list of items which must be included in them, such as minimum wages, holiday and vacation pay, and severance pay. Mexico's labor laws are sometimes considered to offer more protections to workers than U.S. labor laws, but critics note that labor law enforcement is weak and that most Mexican workers--less than 40 percent in 1980-- are not in formal employment relationships that are covered by labor laws.

Complaints about inadequate labor law enforcement are widespread. There are few labor inspectors, so most workplaces are not visited. When inspections are made, violations are sanctioned lightly, if at all. The enforcement of health and safety laws, for example, depends largely on worker complaints, which are most likely to come from workers in unionized plants. The minimum age for employment is 14, but violations of child labor laws are so common that, by one estimate, 10 million children supplement an adult labor force of 30 million (Hufbauer and Schott, 1992, p. 120 – neither child nor adult was defined). Mexico has a minimum wage (10,787 pesos or about $3.60 daily for an 8-hour workday in Mexico City in 1991), but underpayment is allegedly common, especially in rural areas.

Perhaps more important than alleged violations of labor laws is the fact that the majority of Mexico's workers are not in the formal employment relationships that labor laws regulate. The 1980 COP reported that 55 percent of the labor force were self-employed, unpaid family workers, or otherwise not working for wages and salaries. These informal sector workers are included in the Mexican labor force, and many are presumably available for "real" wage and salary jobs if they become available.

Even with these informal sector workers included in the labor force, Mexico has a low labor force participation rate. In industrial countries such as the United States and Germany, about half of the population is in the labor force (125 and 40 million, respectively). However, in Mexico, only one-third of the population is in the labor force; there are large numbers of especially urban women who do not have and are not seeking jobs because there are none available. If the Mexican economy were to generate large numbers of jobs, some of these women might enter the work force.

Mexico is a mostly urban country, but 29 percent of the population lives in rural areas. Although the rural share of Mexico's population is about the same as the rural share of the U.S. population (25 percent), most of Mexico's 26 million rural residents are farmers (29 percent of 90 million), while fewer than 10 percent of the 63 million rural resident of the United States are in farming families. In Mexico, the rural population generates only 9 percent of GDP, so their average incomes are less than one-third of Mexico's $2,500 per capita GDP. U.S. agriculture, by contrast, generates a slightly larger share of GDP than farmers' share of the population, so U.S. farmers have higher than average incomes.

Low farm incomes have sharply reduced Mexico's rural population, and the persisting rural-urban income gap continues to encourage rural-urban migration. About one-fourth of Mexico's 30 million labor force – almost 8 million adults – are farmers or farm workers, a 25 percent increase from almost 6 million in 1980. In 1980, men were 5/6 of the workers employed in agriculture, and half of them were self-employed. The projected behavior of these farmers, farm workers, and their dependents in the 1990s may be the most important factor underlying explanations of NAFTA's impact on Mexico to U.S. migration.

Mexican Agriculture

With only one in four Mexican's living in rural areas, it may not seem important to emphasize agriculture to explain how NAFTA may affect migration flows and U.S. workers. But farmers, farm workers, and their families play a disproportionate role in migration to the United States: Braceros were recruited in the rural areas of Mexico, and since then most U.S.-bound migrants have had farming backgrounds. Although there has been a noticeable increase in migrants from the urban areas of Mexico which now include almost 3/4 of Mexico's population, some of these urban-to-U.S. migrants are recent rural-urban internal migrants.

Since most U.S.-bound migrants come directly or indirectly from rural Mexico, it seems appropriate to explore the Mexican agricultural system they leave behind. Mexico has a bimodal agriculture (Table 6). Private farmers own about 17 million acres of cropland, including 6.2 million acres or about half of Mexico's irrigated cropland. These "pequeños propietarios" or small producers can own land, but they have been limited until 1992 under Mexican law to a maximum 100 hectares (247 acres) of irrigated land to grow grains and corn, 300 (720 acres) hectares of irrigated land for orchards, or enough land to maintain 500 head of cattle.

Table 6. Basic Data on Mexican Agriculture

	1970	1975	1980	1985	1989
Population (millions)	52.8	61.2	69.6	78.5	85.9
In agriculture (%)	44	41	37	34	32[a]
Total Labor Force (mils)[b]	14.9	18.4	22.8	26.8	29.3[a]
Ag Labor Force (% of TLF)	44	40	36	33	31[a]
GNP ($ mil)	37.5	83.3	161.5	171.0	148.7[a]
Rate of Growth (%/yr)	3.2	3.0	2.6	2.4	2.3
GNP/Capita ($/Person)	710	1360	2320	2180	1770[a]
Exchange Rate (Pesos/$)	12.5	12.5	23.0	256.9	2461
Total Debt ($ mil)	n/a	16.6	57.4	96.9	106[a]
Crop Land (mil acres)	56.8	58.8	60.5	61.0	61.0[a]
Irrigated Land (mil acres)	8.9	11.1	12.3	13.0	12.5[a]
Ag Exports ($ mil)	695	973	1833	1783	2425[a]
-Fruits and Vegetables ($ mil)	140	180	370	321	318
Ag Imports ($ mil)	222	936	3168	2325	2877[a]
-Corn ($ mil)	58	405	589	255	450

[a] 1988 most recent data available.

[b] Defined as the economically active population employed full-time.

Source: USDA, World Agriculture, Trends and Indicators, 1970-89, Statistical Bulletin Number 815, 1990, p. 355-358.

Families can and do evade these restrictions on land ownership by having each member own the maximum number of acres, and then the family farms the land as a single unit. However, such extended land holdings are not secure. Article 27 of the Mexican Constitution until 1992 permitted the expropriation of "excess land" and its redistribution to the landless families who often invaded and occupied it. This threat of expropriation is one reason cited frequently to explain why investment in agriculture is only 2 percent of farm output, versus 15 percent of output for the entire economy.

A January 1992 amendment to Article 27 of the Mexican constitution ended the right of small farmers to claim private lands for themselves and permitted both foreigners and corporations to buy land in Mexico. Mexico hopes that these changes to its land tenure laws will boost both domestic and foreign investment in Mexican agriculture. In the past, U.S. investors avoided investing in Mexican agriculture; they poured $9.2 billion into Mexico in 1991, but less than 1 percent flowed to rural areas.

The distinguishing feature of the Mexican agricultural system is that it includes both private farmers, ejidatario members of *ejido* communal farms, and landless rural workers. The private farmers have been the beneficiaries of many government investments in agriculture, including dams and other irrigation facilities in the vegetable-exporting states of Sinaloa and Sonora. The 3 million *ejidatarios* and 3 million landless rural workers, plus their working family members, are about 20 percent of Mexico's 30 million work force. With their families, they are the 27 million rural Mexicans poised to leave the land.

The 3 million *ejidatarios* are grouped into 27,300 ejidos. These communal farms control about 70 percent of Mexico's crop land and half of its irrigated land. The *ejido* system was enshrined in Article 27 of the Mexican Constitution of 1917 to guarantee that the *campesinos* would own the land that they worked. Mexico's agrarian reform ministry redistributed large private land holdings to *ejidos*, and then granted *ejidatario* members and their heirs rights to the land as long as they actively work and live on it. *Ejidatarios* receive land as a group, but in most cases land is farmed individually. *Ejidatarios* may not sell, rent, or borrow money using the land as collateral.

The *ejido* system ensured that peasant farmers did not lose the land that they farmed, but it did not make *ejidatarios* efficient farmers. *Ejido* farmers are exempt from taxation, and they enjoy other benefits such as the right to low-interest loans from a special federal bank. Even though private farmers have only one-third as much crop land as *ejidos*, they produce far more food and fiber, largely because private farmers use modern technology, including imported equipment, seeds, and pesticides, while *ejido* farmers more often grow corn and beans as they have been grown for centuries.

Most ejido farmers grow corn and beans. By one estimate, there are 3 million subsistence corn and bean farmers, and another 3 million landless rural workers in Mexico. Producing these staples of the Mexican diet uses almost half (49 percent) of all man-days of agricultural labor in Mexico,[15] but yields are low. Even though Mexico guarantees its farmers twice the world price for corn, currently about $190 per ton versus $95 in the United States, corn yields in Mexico are only one-fourth U.S. levels. Many *ejido* farmers do not benefit from high corn prices because they grow enough only for their own subsistence: an estimated 20 percent use ox and plow technologies to farm their rainfed land and produce only enough for their own subsistence.

Six million farmers and farm workers dependent on producing crops that the United States already has in surplus at half Mexican prices poses a major NAFTA-migration challenge. If

Mexico were to suddenly abolish the trade barriers that currently limit U.S. corn imports to about 5 percent of Mexican consumption, would displaced corn farmers, workers, and their families migrate to the United States? By one estimate, free trade in corn and beans would eliminate the jobs of 30 percent of the farmers and workers currently employed in Mexican agriculture, or 10 percent of all Mexican jobs (Yunez-Naude, 1991, p. 5).

The Mexican government in the past tried to make its private and ejido farming system productive enough to make Mexico self-sufficient in corn, beans, and other staples of the Mexican diet, and also to preserve and protect small peasant farmers. But Mexican farm policies failed to achieve either goal. Mexican food production has generally risen slower than population growth since 1960. The 3 million *ejido* farmers did not lose their land because they could not sell or rent it, but they also could not support themselves adequately despite costly water, electricity, and credit subsidies and higher than market prices for the crops that they grew.

Mexico's failed attempt to achieve self-sufficiency in the production of corn and beans in the early 1980s set the stage for fundamental reforms in the early 1990s. During the late 1970s, Mexican imports of basic commodities such as corn and beans rose sharply. If food imports had continued to increase at late 1970s rates, the Mexican government projected that, by 1990, about 72 percent of Mexico's rising oil export revenues would have had to be spent to buy imported food. To avoid such a dependence on imported food, the Mexican government in March 1980 offered even higher prices to farmers, and announced its goal of achieving self-sufficiency in corn and beans production by 1982. More government subsidies for inputs and higher prices for outputs caused farm production to soar, but so did the Mexican government's farm support costs. During the early 1980s, real guaranteed prices for the crops farmers grew rose at a 10 percent annual rate, and the real cost of agricultural support prices rose 48 percent between 1979 and 1981 (Sartorio, 1987, pp. 8 and 11). The Mexican government could afford such costly farm supports as long as the value of its oil exports continued to increase, and when oil prices collapsed in 1982, so did the goal of autarky in food production.

As government subsidies and prices fell, disillusioned small farmers and landless workers began to migrate away from their villages in search of jobs. Some of these rural Mexicans migrated to the United States; apprehensions rose almost 30 percent to 1.3 million between 1982 and 1983. Government input subsidies and crop prices quickly lost their attractiveness to Mexican farmers during the inflationary 1980s, and the technology or productivity gap between U.S. and Mexican agriculture widened. Mexican farmers were caught in a classic cost-price squeeze.

The stagnation in the *ejido* sector in the 1980s due to the lowering of government-guaranteed prices was compounded by a cost-price squeeze in the late 1980s. The agricultural research budget was reduced by 60 percent during the 1980s, and government investment in irrigation facilities, rural roads, and the other infrastructure necessary for modern agricultural production declined as well. The number of tractors has been declining, and Mexican production of certified seeds and fertilizers has been falling since 1986, requiring farmers to import these inputs (and pay a 10 to 20 percent Mexican tariff on them) in order to use them in production. Yields of staple foods in Mexico have been falling, and in 1988-89, Mexico's farm output fell over 5 percent.

Mexican President Salinas on November 7, 1991 addressed the Mexican farming crisis by proposing a constitution change that could eventually eliminate the *ejido* system. If accepted, *ejido* land could be sold, rented, or used as collateral for loans. Foreign and domestic corporations could buy Mexican farmland, although only 25 times the limits for individuals. Salinas' proposed changes to Mexico's land tenure system were approved as an amendment to the Mexican constitution on January 6, 1992.

There is considerable speculation about how Mexico's agricultural reforms will affect supply-push emigration pressures in the Mexican countryside. A few observers hope that increased foreign and domestic investment in agricultural maquiladoras that import seeds, technologies, and management can create jobs for rural Mexicans growing fruits and vegetables for export instead of corn and beans for subsistence consumption. Domestic and foreign investment in Mexican agriculture has been increasing, and Mexico's unilateral changes in its land tenure system will undoubtedly foster more investments, but changing land ownership laws are not expected to "generate a major increase in foreign investment, as investors have already found ways to work around" previous restrictions (Cook *et al.*, 1991, p. 23). Furthermore, investors who want to buy or rent newly available *ejido* land must wait. Not all of the *ejido* land has been surveyed to determine exactly who owns what, and administrative details such as whether one *ejidatario* can dispose of his land if the other *ejido* members object, have not yet been worked out.

Will a signed NAFTA add enough additional incentives to invest in Mexico so that job creation in rural areas there dampen the supply-push pressures that rose during the 1980s? There has been speculation that the U.S. demand-pull for Mexican workers will shrink, or at least not continue to expand, in the 1990s because U.S. farmers will shift fruit and vegetable production to Mexico to take advantage of lower labor costs and less stringent environmental regulations there. U.S. agribusiness already has a significant foothold in Mexican agriculture. Since the 1960s, U.S. packer-shippers of fresh vegetables have been providing the financing, seeds, and advice which created and expanded Mexico's winter vegetable industry, permitting the Mexican industry to expand along with the U.S. industry.

There will undoubtedly be more fruit and vegetable production in Mexico for the U.S. market in the 1990s, but FVH agriculture is likely to expand in both the United States and in Mexico rather than shrinking in the United States and expanding in Mexico. U.S. producers will not shift en masse to Mexico for many reasons. Agriculture is dispersed because it is land-intensive, and climate and soils often dictate where and when crops can be grown. Mexico's primary attraction for U.S. agribusiness is its climate: Mexico can produce fruits and vegetables during the winter months, when most U.S. production areas are idle (except Florida). About three-fourths of U.S. fruits and vegetables are produced in the spring, summer, and fall seasons, when Mexico is not producing, making it is easy to see why the United States will retain most of its fruit and vegetable industry, even if there was a surge of U.S. investment in Mexican agriculture to produce crops for the United States.

There have been numerous studies of the costs of producing fruits and vegetables in the United States and Mexico in order to determine which commodities and states will be "winners" and "losers" under NAFTA. The most comprehensive summary of these studies concluded that U.S. producers will not shift to Mexico quickly because of the technology gap and rising Mexican costs:

> Mexico does not currently pose a major competitive threat [to U.S. producers] in many horticultural crops, such as: table grapes, fresh broccoli and cauliflower, processing tomatoes, peaches, apples, strawberries, melons, and eggplant. This is generally due to a technology gap and rising Mexican costs. Much of Mexico's production is complementary to U.S. production and serves to provide a stable year-round supply of fresh fruits and vegetables to the U.S. consumer. Mexico's ability to expand exports is limited by the rapid growth in its own population...which is improving its diet and will be consuming more fresh fruits and vegetables as incomes rise. (Cook *et al.*, 1991, p. 464)

This study also concluded that Mexico's:

> ... most important advantage [for FVH production] is climate, which enables Mexico to produce an array of fruits and vegetables ... Viewed on a seasonal basis, Mexico is primarily a complementary supplier of fresh vegetables to the U.S. market.
>
> Mexico's principal disadvantage is the technology gap ..., which is frequently reflected in lower yields in Mexico ... While per acre growing costs are often lower in Mexico, per unit production costs are often similar to U.S. levels [because of lower Mexican yields] ...
>
> Mexico has higher marketing costs caused by the imperatives of exporting, including transportation costs to reach the U.S. market. Also, while labor rates are lower in Mexico, labor is frequently less productive, due to restrictive work rules and other factors. Consequently, total labor costs per crop in Mexico are frequently not as low as the wage rates would suggest. In some Mexican production regions labor is becoming less available, while this is generally not true in California.
>
> Most importantly, Mexican horticultural exporters face costs that are increasing at a more rapid pace than production and marketing costs faced by U.S. growers. The Mexican government is embarked on a program to reduce or eliminate production subsidies ... Mexican horticultural exporters now import a substantial portion of their inputs, such as fertilizer, boxes, seeds, transplants, equipment, plastic and chemicals. They must pay Mexican import duties on these items of from 10 to 20 percent ... Further, the peso has been overvalued since mid-1987, decreasing the competitiveness of exporters by making their products more expensive in dollar terms... (Cook *et al.*, 1991, pp. 458-9)

Mexico is not as cheap a production area as its wage levels might suggest, so that a maquiladora model of foreign investment attracted by low Mexican wages may be inappropriate. Mexican farm wages are $4 to $6 per day, compared to $4 to $6 per hour in the United States, but Mexican farmers pay proportionately more for worker transportation, housing, and related benefits. Less productive workers (the most productive workers are allegedly in the United States), higher non-wage costs, and lower yields combine to make costs of production as high or higher in Mexico. For example, one study concluded that in 1991-92, the cost of producing a 25-pound carton of tomatoes was $6.53 in Mexico and $6.40 in Florida. Not only were production costs lower in Florida, Florida tomatoes typically command a $2 per box premium, further reinforcing the Florida advantage.

Mexican worker productivity and yields may increase, but most observers argue that "Mexico's ability to expand horticultural exports depends in large part on attracting foreign investment" (Cook *et al.*, 1991, p. 464). Foreign capital is needed especially to finance perennial crop production, such as grapes, citrus, and tree fruits, which have a three to seven year lag between the investment and the first crop. Mexico also needs to import the technologies that can improve yields and quality. The irony of needing foreign investment to expand Mexican fruit and vegetable production and exports is that if Mexico does expand, it will be due primarily to the investments of U.S. growers and processors.

How fast will U.S. growers and processors expand production in Mexico for the U.S. market? U.S. agribusiness today has a relatively small investment in Mexican agriculture: by one estimate, only $30 to $100 million in 1991, or less than California apricot farmers have invested in land to produce apricots. There are several good reasons why U.S. agribusiness has avoided more direct investments in Mexico, including legal restrictions on land ownership. U.S. investors typically produce in Mexico with local partners, and such partnerships have not been trouble-free.

U.S. grower publications are full of stories of U.S. growers who advanced money to their Mexican partners that was never repaid. However, a more important theme of these stories is that Mexican costs of production can be as high or higher than U.S. costs (The Packer, April 25, 1992, p. 1A).

One model for additional U.S. agribusiness investment in Mexico may be the frozen vegetable industry. This industry is dominated by a handful of multinational food companies and, as their U.S. plants aged during the 1980s, they were faced with the prospect of making major new investments to satisfy environmental laws and regulations. These catch-up investments, as well as the prospect of lower wages, encouraged many to move to Mexico. However, these trends affected only a few commodities: overall canned, frozen, and dried food manufacturing employment rose between 1975 and 1990, and is projected to rise futher by 2005.

There has been a tendency to project the effects of NAFTA from a few very special cases, especially broccoli and cauliflower. These commodities are are over 90 percent of the frozen vegetables imported from Mexico and the U.S.-produced share of the frozen broccoli and cauliflower consumed here fell from a 70 to 90 percent range in 1980 to between 40 and 50 percent in 1990. The rapid growth in broccoli and cauliflower consumption has led to almost a tripling of their U.S. production for the fresh market during the 1980s, and a 6- to 10-fold increase in imported frozen broccoli and cauliflower. Mexicans consume few frozen vegetables, both because they lack in-home freezer capacity and they traditionally make frequent shopping trips for fresh vegetables, so frozen vegetables are a type of agricultural maquiladora that produces a commodity with U.S. seeds and technologies for U.S. consumers.

Frozen vegetables such as broccoli are grown under contract in both the United States and Mexico, which means that the (usually U.S.) food company supplies the seeds and growing instructions, the Mexican farmer grows the crop and delivers it to the processing plant, and the farmer receives the price that was established in the contract signed before planting. The contracting process requires food companies to obtain data on costs of production, since they normally offer a contract price which reflects production and labor costs. Cost of production studies indicate that Mexican production costs of 25¢ per pound of broccoli are just over half 46¢ per pound U.S. costs (Cook *et al.*, 1991, p. 110). This significant cost of production differential has allowed Mexico to gain market share despite a 17.5 percent U.S. tariff on imported broccoli.

A NAFTA which eliminated tariffs could be expected to further increase Mexico's share of the U.S. frozen vegetable industry, creating jobs in the central Mexican states that have traditionally sent migrants to the United States. However, U.S. employment in the canned, dried, and frozen food (mostly fruits and vegetables) industry (SIC 203) is projected to remain at about the 250,000 level where it has been since the mid-1970s, largely because rising U.S. consumption of these products is expected to create enough additional U.S. jobs processing potatoes – which were almost one-fourth of the $11.5 billion in U.S. vegetables in 1991 – and similar commodities in which the United States should retain its comparative advantage.

NAFTA may encourage shifts within a U.S. vegetable processing industry in which overall employment is projected to be stable. States that specialize in the crops which can be grown cheaper in Mexico may experience job losses, while states such as Idaho are likely to gain food processing jobs. But it is hard to predict the speed and extent of such state-by-state job shifts because tariffs are likely to be phased out over a decade or more, and because U.S. producers may be able to increase their yields or quality enough to retain a competitive advantage over Mexico.

Most cost of production studies caution that there will not be a sudden increase in U.S. agribusiness investments in Mexico that eliminate supply-push pressures there. A major reason for this caution is the expectation that NAFTA will raise Mexico's costs of production. The average U.S. tariff on the Mexican fruits and vegetables exported to the United States in 1990 was 8 percent, so NAFTA would by, say 2005, lower Mexican costs by 8 percent. This tariff cost reduction could be dwarfed by the appreciation of the peso expected as NAFTA stimulates foreign investment in Mexico. The Institute for International Economics, for example, projects a 29 percent increase in the real peso exchange rate due to a NAFTA, and such a peso appreciation would raise Mexican production costs far more than tariff reduction lowers the U.S. price of Mexican crops (Hufbauer and Schott, 1992, p. 57).

NAFTA will lower tariff and non-tariff barriers and increase Mexican exports, thus reducing supply-push emigration. But NAFTA will not solve the other problems associated with producing in Mexico for the U.S. market: higher transportation costs, less public research on disease and other factors which lower yields, and lower worker productivity. These Mexican disadvantages can be overcome with foreign investment and time, but Luis Tellez Kuenkler, Undersecretary in the Mexican Ministry of Agriculture and Water Resources, cautions that Mexican agricultural exports will not skyrocket overnight. He may be correct when he predicted in 1991 that Mexican FVH exports to the United States would rise, at most, by 40 percent within five years after a NAFTA is signed, or from $900 million in 1990 to $1.3 billion by 1998.

It is hard to predict how many more jobs an additional $400 million in fruit and vegetable exports will create in Mexico, and what stay-at-home effects such job creation may have. Mexico exported tomatoes worth $428 million in 1990, and this Mexican production created jobs from January through May for about 150,000 Mexican workers, suggesting that each $2,850 in tomato exports creates 1 five-month seasonal job in Mexico. An additional $400 million in Mexican FVH exports 5 years after a NAFTA is signed suggests that there may be another 150,000 seasonal jobs for rural Mexicans because of NAFTA.

Mexican production will increase not only because NAFTA lowers trade barriers. If NAFTA increases Mexican incomes, production will rise there as well as in the United States to provide the fruits and vegetables that Mexico's growing and more affluent consumers can be expected to want. Mexico is already a major market: about 82 percent of the fruits and vegetables produced in Mexico are consumed there. Since Mexicans consume more fresh vegetables than Americans, some of any additional U.S. agribusiness investment in Mexico will likely be devoted to producing fruits and vegetables for the expanding Mexican market. Increased production for the Mexican market indicates how jobs that reduce supply-push emigration pressures can also be created indirectly by NAFTA.

The Urban Crisis in Mexico and SAW Legalization in the United States

Many Mexican farmers pushed out of agriculture by the cost-price squeeze during the 1980s migrated to Mexican cities. Mexicans have been migrating to urban areas for decades, and during the 1980s, the urban population grew at a faster rate (2.9 percent) than the total population, leaving Mexico with almost 3/4 of its population in urban areas today (Table 7). Mexico City, is one of the world's largest cities, and its 15 to 20 million residents are one-fourth of the country's population.[16] About the same percentage of Mexicans (32) lived in cities of 1 million or more in 1990 as Americans (36). Despite rural-urban migration, the rural population was larger in 1990 that it was in 1980.

Table 7
Mexico's Rural and Urban Population: 1980-1990

	1980	1990
Total Population (mils)	69.3	86.3
Urban (mils)	46	62
Rural	23	24

Source: World Bank, 1992

Most of Mexico's economic activity is in urban areas – agriculture contributed only 9 percent to Mexico's $238 billion GDP in 1990, so per capita urban GDP is much larger than per capita rural GDP. The 24 million rural Mexicans shared the $21 billion rural GDP in 1990, giving them an average $892 each, while the 62 million urban Mexicans who shared the remaining $217 billion GDP had an average $3,500 GDP each.

With urban incomes almost four times rural incomes, rural families sought to maximize family income by sending daughters to Mexican cities to work as secretaries in offices or as operatives in factories, and sons to the United States to be farm or nonfarm laborers (Taylor, 1987). However, Mexico's cities could not absorb the natural increase in their work forces, plus these rural-urban migrants, in an era of economic stagnation.

The economic crisis that began in 1982 slowed GDP growth and cut wages. Per capita GDP fell by 5.4 percent between 1981 and 1991, with the sharpest drop in 1986 (Table 8). Real manufacturing wages fell sharply in 1982 to three-fourths of their 1980 levels, and they also hit their lows relative to 1980 between 1986 and 1988. The real value of Mexico's minimum wage in urban areas fell throughout the 1980s, so that by 1991, it was only 42 percent of its 1980 level.

Table 8. Mexico's Economy: 1984-1991

	1984	1985	1986	1987	1988	1989	1990	1991
GDP Growth (Percent)	3.6	2.6	-3.8	1.8	1.4	3.1	3.9	4.0
Per Capita Growth (Percent)	1.2	0.2	-5.9	-0.5	-0.8	0.9	1.6	2.0
Real Average Mfg Wages (1980=100)	75.0	76.0	72.0	71.0	72.0	75.0	78.0	77.0
– Year-to-Year change (%)	-7	2	-6	0	1	5	4	4
Real Urban Minimum Wages (1980=100)	72	71	65	62	54	51	45	42
– Year-to-Year change (%)	-6	-2	-9	-5	-12	-6	-10	-6
Urban Unemployment (%)[1]	5.7	4.4	4.3	3.9	3.5	2.9	2.9	2.6

[1] Unemployment in Mexico City, Guadalajara, and Monterey. Mexico counts as unemployed only those who are separated from a formal employment relationships.

Source: Economic Commission for Latin American Countries, 1992. 1991 data are preliminary.

The economic crisis in urban Mexico was at its worst between 1986 and 1988, when the United States enacted the Immigration Reform and Control Act (IRCA) of 1986. IRCA responded to a decade of debate over how to combine sanctions on employers who hire illegal aliens with an amnesty for those who had developed an equity stake in the United States. It also responded to the highest-ever level of apprehensions in U.S. history: 1.8 million illegal aliens were apprehended in FY 86, an average of more than 3 per minute.

For rural Mexicans who felt themselves being pushed out of agriculture, IRCA and especially its Special Agricultural Worker (SAW) legalization program must have seemed a godsend. The September 1985 earthquake in Mexico City had destroyed jobs and homes there, and recovery was slowed by foreign debts which limited Mexico's ability to borrow on international markets. Prices were climbing at a dizzying rate: inflation was 120 percent in 1986, and 160 percent in 1987.

Many rural Mexicans took advantage of the SAW program to come to the United States in 1987 and 1988. No one knew exactly how many illegal aliens had been employed in U.S. crop agriculture at least 90 days during the 12 months ending May 1, 1986, the requirements for SAW legal status, but most of the survey data suggested that about 20 percent of the nation's seasonal farm workers in the mid-1980s were not authorized to work in the United States. There were 1.5 to 2.0 million U.S. seasonal farm workers in the mid-1980s, and if 20 percent of them were illegal aliens, there should have been 300,000 to 400,000 applicants for SAW legalization. Farm employers told Congress that most of their unauthorized workers returned year-after-year, so the SAW program established a Tier I program for unauthorized farm workers who had done at least 90 days of farm work in the 12 months ending May 1, 1984, 1985, and 1986, and capped the number of applicants at 350,000 to reflect widely anticipated total number of SAW applicants.

The SAW program was the major surprise of IRCA, largely because it attracted almost four times more applicants than were expected. The INS received almost 1.3 million applicants, and 82 percent or 1 million of them were filed by Mexicans. Congressional testimony indicated that many farm employers who employed unauthorized workers in the early 1980s paid them in cash and kept no records on their employment, so applicants for SAW legalization were permitted to submit letters (affidavits) from U.S. employers that simply asserted that the named alien had been employed 90 days during 1985-86 in a particular crop. The burden of proof then shifted to the INS to disprove the SAW applicant's claimed work history by e.g. proving that the applicant was really in Mexico or that the employer who supplied the letter supplied letters to 1,000 unauthorized workers but made Social Security payments for only 100 workers.

Rural Mexicans did not immediately appreciate how easy it was to apply for the SAW program and, during the spring of 1987, even though inflation in Mexico was rising and the peso was falling, fewer Mexicans than usual came north for the early U.S. harvests, such as the May 1987 strawberry harvest in Oregon. Farmers complained of labor shortages. There were false rumors circulating in rural Mexico that, under IRCA, illegal aliens apprehended in the United States could be jailed or forced into the U.S. armed forces, and so the farmer-funded Alien Legalization for Agriculture (ALFA) sent representatives to Mexico to explain how to apply for SAW legalization and to take applications there.

ALFA reported that there were workers in Mexico who qualified for SAW legalization, but their only proof of qualifying work was their hoped-for recognition by the U.S. employer they worked for. In order to get such proof of qualifying employment, ALFA recommended that Mexican workers be permitted to enter the United States and visit their past employers to obtain a letter they needed to attach to their SAW applications. Since these workers were poor, and because U.S. farmers were experiencing labor shortages, farmers asked that they be allowed to work while they visited their past employers to obtain documentation of their previous U.S. farm work experience. Congress agreed with the farmers by ordering the INS to accept provisional SAW applications from aliens who arrived at U.S. ports of entry and made credible claims that they had done qualifying farm work in 1985-86. These aliens then received 90-day work and residence permits to enable them to obtain the documentation needed to file a complete SAW application.

Mexicans responded to this easy entry channel in large numbers. There are only about 5 million rural male adults in Mexico, and almost one-fifth of them applied for the SAW program. The INS was initially unprepared for the large number of applicants and the widespread sale of work histories, and it approved almost 1 million SAW applications, three times more than expected. The INS became much tougher as the program wound-down in 1988. The INS was disapproving 9 out of 10 port-of-entry applicants by then because its inspectors could see "coaches" soliciting both rural and urban migrant clients near the ports of entry and offering to rent them farm worker clothing and to teach them how to respond to questions about the U.S. farm work that they allegedly had done. However, the non-trivial number of cases in which SAW applicants asserted that they climbed ladders to pick strawberries, or picked cans of beans from trees, or harvested raisins for 92 days (the harvest lasts, at most 8 weeks or 56 days), gives the correct flavor that the SAW program was a welcome and "legal" escape route from rural poverty in Mexico's countryside and an economic crisis in Mexico's cities in the mid-1980s.

6. Networks and Continuing Migration

Migration is a network phenomenon. The individuals who cross national borders can be categorized by their motivations for leaving, such as economic migrants in search of jobs and higher incomes; political refugees fleeing persecution at home; students, business people or tourists migrating for specific and usually short-term purposes; and family-unification migrants. However, where these migrants visit or settle when they enter another country is influenced strongly by where friends and relatives already are. A migration network describes the anchor or settled persons from an emigration area who are already abroad and the remittances and information that they convey to those who have not yet migrated about life and work there.

Once a migration network is established between areas with significant differences in economic opportunities, the network tends to promote migration in a cumulative or snowball fashion. Networks are diverse, but they all tend to serve as bridges between bi-national communities. The networks between rural Mexico and rural America are among the best developed anywhere, and they serve as superhighways between Mexican villages and U.S. farms.

Many of the networks that link Mexicans to U.S. farm jobs were forged during the Bracero program. For 22 years, rural Mexicans expected to come to the United States for 6 to 9 months and to earn wages that were 5 to 10 times what they could earn at home. Whole villages became dependent on these remittances and, as economic activities atrophied in their villages, the village economy became a mirror of the U.S. economy to which it sent workers.

The Immigration Reform and Control Act(IRCA) has been unable to break the networks that have evolved between rural Mexico and rural America over the past five decades. One survey of farmers in three Mexican emigration villages in 1988-89 found that almost two-thirds believed that it was still possible to get a job in the United States without "papers" or the legal right to work in the United States, including 86 percent of the workers who had never been to the United States (Cornelius, 1991, p. 12). IRCA's employer sanctions have not deterred these workers from seeking U.S. jobs.

Instead, U.S. demand-pull and Mexican supply-push factors in the 1980s reinforced existing networks and encouraged the creation of new ones. The reinforcement is evident in studies of traditional emigration villages after IRCA which demonstrated that practically all able-bodied men tried to go to the United States and apply for the SAW program in 1988. In these traditional emigration communities, "out-migration breeds more out-migration...and residents there increasingly view their community as a temporary refuge from labor in the United States rather than an environment for work and investment." (Cornelius, 1990, p. 21). New networks have developed with Mexicans in Oaxaca and Chiapas, some of the poorest Mexican states that border Guatemala, and with the urban areas of Mexico where three-fourths of all Mexicans now live.

If IRCA inadvertently strengthened rather than weakened the networks which bring Mexicans to the United States, the Immigration Act of 1990 deliberately strengthened them by expediting family unification and sending very mixed signals about whether the families of SAWs must wait in the family unification queue to join their relatives in the United States. The 1 million approved SAWs were mostly married Mexican men whose non-working families were explicitly not included by Congress in the legalization program. Even though their newly-acquired legal status permits SAWs to enter and leave the United States legally, and thus might be expected to encourage seasonal work in the United States for high wages while keeping the family in Mexico for its lower living costs, there is some evidence that SAWs have begun to bring their families to the United States. Under the INS family fairness policy, unauthorized family members of successful SAW applicants who were in the United States before December 1, 1988 will not be deported, and since the entry date for these family members is hard to disprove, some SAWs believe that their family members will not be deported regardless of when they arrived.

The Culture of Emigration

Ever-stronger migration networks have led to a culture of emigration in much of rural Mexico. In picturesque but poor villages, typically large (5 to 7 member) rural families have diversified their sources of income, and migration to the United States is an important part of their income-earning portfolio. The 2 to 4 workers in these families may be deployed so that the mother stays in the village to farm the family's *ejido* land, the father and oldest son migrate to the United States, and the daughter seeks an urban services job. These dispersed families send home remittances throughout the year, and they often return in December and January for the fiesta season.

In some villages, a majority of the adults are employed in the United States or in urban Mexico. Remittances may be three-fourths or more of the village's total income, and their spending accounts for much of the economic activity which takes place, such as building new or improved housing for the families that are fortunate enough to obtain remittances.

Could NAFTA somehow break this culture of emigration and encourage rural Mexicans who currently believe that they can find U.S. jobs as unauthorized workers to stay in Mexico? Surveys in emigration villages find that rural Mexicans have given up on agriculture – only 12 percent of 800 workers surveyed in 1988-89 thought that agricultural improvements such as irrigation systems were their community's most important need, versus more than twice this percentage who wanted factories to come to their villages and 37 percent who just wanted jobs (Cornelius, 1991, p. 13). However, these emigration villages are often located too far from highways and railroads to justify locating factories in them, and since they currently are sending their young workers to distant labor markets, the workers available are not necessarily an attractive work force for potential factory operators.

NAFTA alone is unlikely to bring job-creating investments to these emigration communities. NAFTA plus a rural development strategy may be able to create micro industries that encourage some potential migrants to stay at home. But the most likely prospect is for NAFTA to create more jobs in Mexico, but in places far removed from these emigration areas, and thus continue to require young people to migrate to find jobs. Whether they stay in Mexico to fill the jobs NAFTA creates there or continue to follow their networks to the United States is the unanswered question. The evidence, however, suggests that NAFTA will more quickly reinforce the supply-push pressures that encourage migration to the United States than it will create jobs in Mexico to keep internal migrants in their country.

Networks and U.S. Labor Markets

The prospect of increased migration from rural Mexican villages means that already poor prospects for unskilled American workers in the 1990s are likely to worsen. There have been two decades of inconclusive debate about the effects of immigrant workers on American workers. Much of the literature fails to acknowledge that the same networks which bring migrant workers across the border also helps them to get jobs in the United States in a manner which excludes American workers from jobs at the bottom of the labor market.

There are three major theories of how unskilled immigrants affect U.S. labor markets. Each sees a different link between unskilled immigrants and the U.S. underclass, and each has a different implication for immigration policy.

- One-for-one displacement assumes that unskilled immigrants and American workers compete for the same jobs, with the immigrants preferred by employers because they are willing to work "hard and scared" for low wages. This theory assumes that jobs would become available for American workers if the unskilled immigrants disappeared.

- Segmented labor market theories argue that there is little competition between unskilled immigrants and American workers because recent arrivals take only the jobs rejected by American workers. In this theory, the disappearance of immigrants would force some employers out of business but not open up jobs for Americans.

- Triage theories recognize that there is some one-for-one displacement and some segmentation, but triage stresses the flexibility of the labor market. Since labor markets adapt to the presence or absence of unskilled immigrants, fewer immigrants would mean fewer and better jobs for American workers.

The policy implications of each theory are straightforward. The displacement theory suggests that restricting unskilled immigration will open up a significant number of jobs for American workers. Segmentation, on the other hand, suggests that reducing the number of unskilled immigrants will have few effects on the American underclass because Americans will refuse the jobs vacated by recent arrivals. The more sophisticated triage theory recognizes that there is some displacement and segmentation, but that the dynamic labor market and economy will adjust to fewer unskilled immigrants by upgrading jobs, automating them, or simply eliminating those jobs which are not worth hiring someone to do at a decent wage.

The triage theory (which emphasizes how labor markets adjust to the available work force) implicitly recognizes that immigration policies shape the labor market, the economy, and society. In other words, the open door for unskilled immigrants during the 1980s encouraged the type of economic development and job creation which could absorb unskilled immigrants. Waves of unskilled immigrant workers produced paradoxes such as high cost-of-living Los Angeles becoming a major low-wage manufacturing center during the 1980s. The combination of a first world infrastructure and a Third World labor force has made Los Angeles the major U.S. manufacturing center, but the logic of having low-wage employment jump in Los Angeles to make clothing while it falls across the United States is troublesome. If clothes can be sewn at the minimum wage in Los Angeles, then there is less incentive for entrepreneurs to create sewing jobs abroad, reinforcing the vicious circle of poverty and unemployment which propels immigrants to the United States.

Most jobs at the bottom of the labor market are found by word-of-mouth, and after one or more immigrants is hired, an immigrant network often establishes itself to deliver new workers quickly to the employer. The employer of low-wage and unskilled workers — a restaurant or hotel, a shoe or furniture manufacturer, or a farmer — typically experiences a high turnover of American workers because the Americans are dissatisfied with the low wages, hard work, and few benefits of these jobs.(Martin, 1986) The immigrants, by contrast, report diligently every day and offer to bring their friends and relatives to the work place and then train them for vacant jobs. The loyalty and dependability of immigrants makes them preferred workers, and employers eager to avoid dealing with unskilled workers turn recruitment and hiring over to the immigrant network.

Once the immigrant network is established, unskilled Americans tend to be bypassed in the scramble for jobs. An ethnic foreman favors the people he knows best, and the language of the work place soon becomes Spanish or Tagalog. The Americans who show up feel out of place in such workplaces and soon quit, reinforcing the employer's belief that Americans don't want low-wage jobs anyway. The jobs become less and less attractive because the isolated immigrants do not demand and employers do not offer the wage and working condition improvements that are occurring in other labor markets. In this way, the American workers who used to be recruited for low-wage jobs find themselves excluded from them by immigrants.

One effect of such immigrant workplace takeovers is to cut the bridge between disadvantaged Americans and low-wage jobs which was once the first step up the economic ladder. A disadvantaged American youth in an inner city confronting the choice between a minimum wage sweatshop job or petty theft often chooses crime. A number of observers have lamented the now missing bridge between disadvantaged youth and jobs — Charles Murray argues that this missing job bridge decoupled poor youth "from the mechanism whereby poor people in this country have historically worked their way out of poverty."[17] There is a dispute over how to restore the jobs bridge — whether penalties for crime should be increased, welfare programs scaled back, or the educational system reformed — but no disagreement that the jobs bridge has been weakened for the underclass.

Case studies of such immigration networks demonstrate how quickly certain jobs become the "property" of immigrants. In Los Angeles, many of the unionized Black janitors who once cleaned high-rise buildings were displaced by Mexican immigrants over a five year period in the early 1980s. This displacement occurred quickly and indirectly: according to a GAO report, the number of unionized Black janitors in Los Angeles county fell from 2,500 in 1977 to 600 in 1985, even though janitorial employment rose 50 percent because of a building boom.[18] The reason for this displacement of unionized Black janitors in an expanding service industry is that janitorial service firms which employed recent immigrants offered to clean buildings for 25 to 35 percent less because they paid their immigrant workers up to two-thirds less than prevailing union wages. A more recent study reported that inflation-adjusted janitorial wages fell 36 percent to $4.50 per hour between 1983 and 1988, and that the share of each rental dollar going to janitorial services fell from 6 percent to 3 percent.[19] There are 3 million janitors in the United States today, and by 2000 there are expected to be more janitors than teachers. However, average janitorial wages are falling in Los Angeles and elsewhere as private and public building owners contract out cleaning services to the many small cleaning firms which have emerged.

Competition from immigrant workers led to wage decreases in a number of industries. In the San Francisco Bay area, a tortilla factory hired more workers because immigration provided more customers, but then cut wages by 40 percent to compete with a proliferation of competitors begun by immigrants. Inflation-adjusted wages fell for many workers during the 1980s, but some of the sharpest drops were experienced by low-wage American workers who had to compete with immigrants.

Immigrants in expanding industries often prevent wages from rising. The luxury hotel industry doubled its capacity in San Francisco during the 1980s, but wages for unskilled hotel workers rose no faster than average because there was an ample supply of them. Similarly, employment in restaurants expanded as affluent Americans ate out more often, and the availability of immigrants helped full service or "white tablecloth" restaurants to expand as rapidly as fast food and coffee shop restaurants.[20] The availability of immigrants in the kitchen helps to create jobs for American waiters and bartenders, but this means that the full service restaurant industry can create "good" jobs for Americans in the dining room only if it has an immigrant worker subsidy in the kitchen.

IRCA, U.S. Agriculture, and Migration Networks

When he signed the Immigration Reform and Control Act (IRCA) in November 1986, President Reagan said that future generations would be grateful for the painful but necessary steps being taken to control illegal immigration. After years of debate, IRCA sought to wipe the immigration slate clean by legalizing some of the illegal aliens in the U.S., and to reduce the future entry of illegal aliens by imposing sanctions on employers who knowingly hired them.

IRCA was the most significant immigration reform in over 3 decades, and there was a great deal of speculation before the law's passage about its effects on immigrant-dominated labor markets such as agriculture. Some farmers argued that, without continued access to immigrant workers, hand-harvested commodities such as lettuce might double in price to $2 per head. Farm worker advocates, on the other hand, argued that there was not a shortage of American farm workers, only a shortage of decent wages and working conditions in the farm labor market. They hoped that IRCA's creation of a legal farm work force would permit farm workers to improve wages and working conditions that had begun to slip in the face of a steadily rising number of illegal immigrants in the 1980s.

With so much controversy over agriculture's need for immigrant workers, and disagreement over the effects IRCA might have in agriculture, there was a flurry of research interest in how the farm labor market was changing in the late 1980s. Numerous case studies and surveys were undertaken, including at least 10 sponsored by California's EDD. Farm labor research is often motivated by perceived labor supply crises, and the outpouring of studies in the late 1980s in the wake of IRCA ranks as the third major wave of farm labor research.

In the mid-1960s, after the termination of the Bracero program, California sponsored research on prospects for mechanization and farm worker characteristics. In the early 1970s, there was a similar burgeoning of interest in how to extend to farm workers the right to organize and to bargain collectively with farm employers. In the late 1980s, research that began with a focus on how farm employers were adjusting to what was expected to be a legal farm work force often concluded that the real story was how IRCA forced workers to adjust to a glutted labor market.

Most of the case studies and worker surveys conducted in the wake of IRCA conclude that immigration reform was a case of good intentions gone awry. IRCA did not tighten the farm work force as expected because illegal immigration continued despite employer sanctions and stepped-up border enforcement. Farm employers have been able to comply with the letter of IRCA by verifying the right to work of the 2 million seasonal workers they hire each year, but they can circumvent its spirit and continue to employ illegal alien workers because IRCA unleashed a flood of counterfeit work authorization documents that the illegal aliens who continue to arrive and seek farm work can and do use to find jobs. Continued illegal immigration has so dominated all the other effects of IRCA that, 6 years after its enactment, the law that was supposed to steer a farm labor market dependent on illegal aliens toward the mainstream instead appears to have pushed the seasonal farm labor market further into a dependence on legal and illegal immigrant workers with no other U.S. job options.

Agriculture was a major stumbling block to immigration reform, largely because Congress was unwilling to decide whether it was more important to protect American farm workers or to protect American farmers. IRCA's major provisions – employer sanctions and legalization – were recommended by the Select Commission on Immigration and Refugee Policy (SCIRP) in 1981. SCIRP discussed the foreign farm worker issue, and then made the seemingly contradictory recommendation that "government, employers and unions should cooperate to end the dependence of any industry on a constant supply of H-2 workers...but this recommendation does not exclude a slight expansion of the program." (Recommendation VI.E). SCIRP debated proposals that ranged from expanding to reforming to eliminating the H-2 program, and voted 14-2 to streamline the existing program by improving the speed with which employer applications for foreign workers were handled, by requiring employers to pay Social Security and Unemployment Insurance taxes on the wages paid to H-2 workers, and by calling for no industry to be dependent on them.

For these reasons, early versions of Simpson-Mazzoli immigration reform legislation did not deal extensively with the foreign farm worker issue. Farm employers began to consider the issue of what would happen to their work force after the immigration reform movement gathered steam in 1983. West Coast growers formed the Farm Labor Alliance (FLA)[21], and despite the fact that SCIRP and all other immigration commissions recommended against a guest worker program, the FLA succeeded in getting the House of Representatives to adopt the Panetta-Morrison free agent farm worker program in 1984. The FLA also persuaded the Senate to adopt a seasonal agricultural worker program sponsored by Senator Wilson (R-CA) in 1985.

There has been a century of controversy over agriculture's need for foreign workers, the programs under which they are admitted, and their effects on U.S. agriculture, farm employers, and U.S. workers. The historical record is full of assertions that only Chinese, Japanese, or some other immigrant group can do farm work because their short stature makes stooping easier, their hands are uniquely suited for picking, or they are used to the peon conditions that sometimes prevail in rural America. There are well-honed arguments over how much or how little government involvement is desirable in the programs that admit foreign farm workers to protect U.S. and immigrant workers. However, the record is unanimous in its conclusion that the ready availability of foreign farm workers tends to encourage the expansion of labor-intensive agriculture in a manner which makes the industry more dependent on such workers. The availability of such workers often depresses U.S. farm wages and working conditions, encourages U.S. farm workers to seek nonfarm jobs, and slows the development and adoption of labor-saving machines.

The last-minute compromises which satisfied polarized farmer and interests were the Special (SAW) and Replenishment (RAW) Agricultural Worker programs. The SAW program permitted illegal aliens who had done at least 90 days of work in 1985-86 in the subsector of crop agriculture defined as Seasonal Agricultural Services (SAS) to become legal U.S. residents. Farm wages in the mid-1980s were acknowledged to be low, and if the exit of these newly-legalized SAWS from the farm work force caused labor shortages, probationary RAW immigrants could replace them. In this way, Congress assured farmers that they could continue to have easy access to immigrant workers until at least 1993. By then, some hoped, farmers would have improved wages and labor management practices enough to make special immigrant programs unnecessary.

IRCA's agricultural provisions were expected to produce noticeable changes in the farm labor market. In the early 1960s, the termination of the Bracero program unleashed a wave of labor-saving mechanization, improved labor management practices on many farms, and led to federally-funded services for the now U.S.-citizen migrant work force. IRCA was expected to result in similarly noticeable changes. A legal farm work force was expected to demand higher wages and better working conditions, and the end of illegal immigration was expected to encourage farmers to plan for ever tighter labor markets by mechanizing, using labor more efficiently, and perhaps even moving production overseas.

These goals have not been achieved. IRCA boomeranged for farm workers because the continued influx of illegal aliens dwarfed most of the expected wage and benefit improvement effects of agriculture's conversion to a legal work force. Newly-legalized workers could now complain about labor law violations without fear of INS, but many did not because they feared that in a labor market awash with fraudulently-documented and desperate workers, complaints might mean joblessness. Farmers feared that SAWs would immediately take nonfarm jobs, but the case studies found that the language, skill, and contact obstacles which had kept SAWs in the farm labor market as illegal aliens also kept them there as legal SAWs. Some farm workers benefited from gaining the legal right to work in the U.S, but all farm workers were hurt by some of the largest farm labor surpluses since the Depression.

IRCA carefully gave farmers extra time to adjust to a legal work force. What did farmers do with this extra time? Case studies report that farmers made very few adjustments to retain their newly-legalized workers. Instead, the perishable crop agriculture whose adjustment to a legal work force Congress sought to cushion expanded without making any changes in labor practices which would lessen its future dependence on immigrant workers. Indeed, the case studies conclude that many farmers made the opposite adjustments. For example, instead of taking more responsibility for recruiting and retaining seasonal workers, many turned labor recruitment over to the farm labor contractors (FLCs) who often introduce recently arrived immigrants into a labor market, a device which tends to hold down wages. Similarly, instead of building or remodeling housing for out of area seasonal workers, more farmers destroyed their substandard housing.

The actual effects of federal attempts to regulate the farm labor market have often been just the opposite of their goals. For example, federal attempts to regulate farm labor contractors (FLCs) were expected to result in fewer and better farm labor middlemen, but they instead seem to have accelerated the segmentation between good and bad FLCs, and not cured the problem of FLC abuse of immigrant workers. IRCA seems poised to continue this tradition. It took 2 decades, from the mid-1960s to the mid-1980s, to produce a California farm work force that included 20 to 40 percent illegal alien workers. Today, 6 years after IRCA legalized 600,000 farm workers in the state, there are again 20 to 40 percent illegal aliens in the farm work force, but this time their fraudulent documents makes enforcement more difficult.

IRCA's unintended consequence of spreading false work authorization papers to even seasonal farm workers dwarfed the intended effects of the law. When IRCA did not "happen"-- when the labor supply loosened instead of being tightened-- the case studies showed how employer fears turned to cynicism that IRCA would not change business as usual in farm labor.

7. Conclusions

Presidents Bush and Salinas embraced NAFTA as a means to eventually reduce Mexican migration to the United States. However, the U.S. Commission for the Study of International Migration and Cooperative Economic Development concluded that, although increased trade and investment is the best long-run way to accelerate what has been termed stay-at-home development, the transition to a more open economy is disruptive, so that emigration may temporarily increase as Mexico restructures its economy under NAFTA.

Many observers thought that the battle over NAFTA would include debates over this expected J-curve effect of NAFTA on migration, but opponents such as unions have instead focused on labor standards and environmental problems. Migration has been neglected largely because opponents of NAFTA do not want to be perceived as anti-immigrant.

This study concludes that Mexico to U.S. migration will increase in the 1990s, with or without NAFTA, for two reasons: job displacement and the acceleration of existing migration. Job displacement refers to the unemployment in Mexico caused by freer agricultural trade with the United States. Small-scale Mexican corn and bean farmers are not competitive producers of these products, and unless jobs are created for them in the rural areas where they now live, some of those displaced by freer trade might head for the United States.

The acceleration argument is that most job creation in Mexico will be in the border areas that are highly accessible to the United States. This is where almost all of the *maquiladora* plants are already located. Locating more foreign-investor owned plants in this region, the argument runs, will touch off a new mass migration of Mexicans to the northern border area. Since maquiladoras hire mostly young women, and experience 100 percent or more turnover annually, many migrants to the border area might continue to migrate to the United States, where wages are five or six times higher.

NAFTA is the world's first attempt to reduce migration between countries with one to nine per capita income differences. NAFTA is also the first attempt to reduce with only trade and investment measures emigration from a country which sends the equivalent of twice its annual one million labor force increase to the United States each year. About 200,000 of these 2 million unauthorized workers settle here. If NAFTA encourages the expansion of Mexico's export-oriented agriculture in Mexico's Pacific Northwest states of Sinaloa, Sonora, and Baja California, the migrants from southern Mexico recruited to work in northern Mexican fields might continue to migrate on to the United States, as Mixtec and Zapotec Indian migrants from Oaxaca did. The Oaxacans are now the newest wave of foreign-born farm workers in California, Oregon, and Washington states.[22]

How will NAFTA affect the demand-pull, supply-push, and network factors that explain today's rural migration patterns? NAFTA should have effects similar to IRCA on the rural U.S. labor market. Instead of ushering in a new era of farm labor shortages, NAFTA is more likely to contribute to an ample supply of rural workers in the United States during the 1990s. The prospect for U.S. agriculture is that a few U.S. commodities will be hurt by increased competition from Mexican commodities that Mexico can produce more cheaply, but all U.S. commodities will be helped by the stable wages that seem assured by continued Mexican emigration.

Regardless of how NAFTA is phased-in to cushion its effects in Mexican agriculture, some American workers are likely to lose their jobs because of changes in trade patterns traceable to NAFTA. The number of U.S. jobs lost is the subject of sharp debate, but it is clear that U.S.

agriculture will gain from NAFTA. The reasons are straightforward: U.S. farmers already produce at half the Mexican price of $190 per ton the corn Mexico is expected to import in greater quantities, and Mexico will not be able to suddenly expand its production of labor-intensive fruits and vegetables under a signed NAFTA to increase its exports of such commodities to the United States. Once farm trade is completely free, there will be a handful of job gains in the midwest, where corn and grain are produced by highly-mechanized family farms, and slower job growth in the expanding FVH sectors of California, Florida, and other states.

Coping with these expected job changes in U.S. agriculture due to NAFTA is complicated by the segmented nature of the rural work force. Most harvest workers are recently arrived immigrants from Mexico, so a slower expansion of the California avocado or Florida tomato industry reduces the U.S. demand-pull for Mexican workers. However, U.S.-produced fruits and vegetables are trucked to packing facilities and often handled there by U.S.-citizen workers, and if more produce arrives directly from Mexico, some of these plants may close. New portable technologies have already displaced thousands of unionized workers in California's vegetable and melon sheds; these workers were displaced because farmers decided it was cheaper to pick and pack broccoli and cantaloupes in the field with recently-arrived immigrants who earn about half of what the unionized shed workers earned.

Plants which process (freeze) fruits and vegetables may also continue to shift to Mexico and other countries in which multinational food companies believe they can get a reliable supply of the crop at a reasonable price from farmers and then prepare it for the U.S. market at lower labor, environmental, and electricity and related costs. California had 12 plants that prepared frozen vegetables in 1980; today it has 4. Many of the 2,400 workers displaced were employed only 4 to 6 months each year, since the plants processed the vegetable as it was harvested. Recent plant location decisions seem to have been driven as much by non-labor factors, such as the costs of upgrading plants to meet clean water and related environmental standards, as by labor cost considerations.

It is hard to predict how much additional Mexico-to-U.S. migration there will be as a result of NAFTA. Mexicans already dominate legal and illegal migration to the United States. Mexico accounted for about 1/4 of the 7.3 million immigrants to the United States in the 1980s, and almost half of the 1990 arrivals. Mexicans were almost 3/4 of the 3 million applicants for legalization in the mid-1980s, and they have probably maintained their 3/4 share of the illegal flow, which is estimated to be 2 to 3 million annually, with 200,000 to 300,000 settling in the United States.

How much might NAFTA add to these flows, and what can the United States do about such an increase in immigration? The estimates generated by computable general equilibrium models predict that 800,000 to 1 million additional illegal Mexican immigrants may arrive in the United States because of NAFTA. These estimates refer, however, to additional illegal immigration over 5 to 15 years, and they assume that U.S. immigration policies will remain unchanged.

The increased migration **due to NAFTA** should be limited to at most an additional 100,000 migrants annually. If 10 percent of them settle, NAFTA could produce an additional 10,000 unauthorized Mexicans settling in the United States each year. Most of the increased supply-push in Mexico which encourages emigration should be due to non-NAFTA factors such as land reform and privatization, and some of the demand-pull of jobs in the United States is due to the failure to enforce labor laws and IRCA in a manner that permits immigrant workers to be a form of industrial policy that encourages the continued expansion of sectors which provide jobs for Mexicans in the United States, such as agriculture and services.

8. Policy Options

In developing policy options to deal with the effects of NAFTA on immigration, several factors should be considered. The United States government should acknowledge that NAFTA is likely to increase immigration. Second, the federal government should acknowledge that NAFTA is likely to increase the costs of state and local government programs in the areas likely to receive more legal and unauthorized immigrants. Third, maquiladora developments should be monitored to determine their effects on levels of legal and illegal immigration. Research on the connections between Mexican border growth and cross-border migration asserts that there are no linkages between internal migration to the border area and international migration across the border. This apparent non-relationship deserves careful scrutiny and further study.

There are three policy options that directly affect U.S. workers and labor markets. First, NAFTA should ensure that changes in Mexican agriculture are phased in to allow a transition period that minimizes emigration. Second, a rural development strategy should be developed to cope with NAFTA's effects in rural America. Third, the United States needs to review and revise the Migrant Assistance Programs (MAPs) that prepare farm workers for upward mobility inside and outside of agriculture.

Phasing-In Free Trade

There are several models which generate trade-linked migration projections. The UC-USDA model is typical—it predicts that completely free agricultural trade would produce an additional 600,000 Mexico to U.S. migrant workers, and an additional 773,000 rural to urban migrants within Mexico, over 6 to 15 years.[23] These projections, made before the 1992 *ejido* reforms that permit the members of these cooperative farms to sell or rent their land, appear to assume that emigration from rural Mexico would continue to involve only one or two members of a large rural household. However, if the migrant family sells its *ejido* land and migrates as a unit to the United States, these numbers might be multiplied by a factor of 3, 4, or, 5.

Such models suggest a trade-off for the United States. A quick move toward free trade in corn, which benefits midwestern farmers, might also increase Mexican immigration and depress wages and increase joblessness in Los Angeles. Mexico wants to move toward free trade in agriculture very slowly, and these models support the Mexican position in the NAFTA talks. The faster Mexico lowers guaranteed corn and bean prices, which continue to anchor one-fourth of the 28 million strong Mexican labor force in agriculture, the quicker Mexico will reduce its agricultural population from 27 percent to a level more comparable to Chile (14 percent) or the United States (3 percent). Mexico's farm population is bound to shrink. The issue is whether the United States should speed up displacement in Mexican agriculture by pushing for free trade in agricultural products quickly if it knows that many of those displaced will wind up in the U.S. labor market.

Since the major effects of NAFTA's agricultural provisions are likely to be felt in rural Mexico, the United States may wish to help Mexico to develop an effective rural development strategy to keep some of the displaced Mexican farmers in their villages or nearby cities. The United States experienced the displacement from agriculture of 1 million Americans per year in the 1950s, many of whom moved from the rural Southeast to Chicago and Detroit. If the United States wishes to avoid a similar flight-from-the-land in Mexico, which would add to the California work force, it would be in the United States' best interests to apply lessons from the 1950s to rural Mexico.

Rural Development Strategy

As noted earlier, job shifts and reasons for them in an agricultural sector likely to be a net gainer from NAFTA leads to the conclusion that the traditional remedial policy for workers adversely affected by trade – Trade Adjustment Assistance (TAA) – may not be sufficient or appropriate for rural America. TAA has never been used extensively for seasonal food processing workers who lost their jobs, and it is doubtful that the job shifts likely as NAFTA is phased-in can easily be traced to NAFTA. For example, the east-west oriented rail systems of the United States and Canada are being re-oriented to strengthen north-south links and, as the transportation network to move bulk goods between Mexico and the United States improves, more food processing plants may shfit to Mexico. It will be hard to determine whether such job losses are due to NAFTA or to a longer-term re-orientation of the transportation system that has been inspired by the rapid growth of maquiladora shipments and a sense within the rail industry that, regardless of NAFTA, the demand for north-south shipments is rising.

Instead of TAA, a renewed commitment to rural development may be the most appropriate policy response to NAFTA. One-fourth of the U.S. population lives in rural America and, after the 1970s rural renaissance in which rural areas gained population at a faster rate than urban America, the 1980s have seen the more usual condition in which rural communities are once again in a slow-growth period. The departure of a single employer can unleash a slow economic death spiral for rural communities. Larger economic forces have offsetting effects on rural America, and NAFTA may be an opportune moment to make sure that e.g. the communications revolution that permits individuals to choose to live and work in rural areas is not offset by a sudden deregulation of the transportation system that sharply raises the costs of traveling to and from rural communities.

Coordinating Services for Farm workers

NAFTA will not slow the revolving door through which many Mexican immigrants enter the U.S. labor market. Agriculture is likely to remain an industry which employs 2.5 million workers who on average earn poverty-level incomes. Farm worker service programs will assume a new importance as NAFTA speeds up the entry and flow of immigrant workers through the farm labor market. During the 1960s, the federal government began these programs to help farm workers and their families as part of the war on poverty. Although most of these programs initially served only migrant farm workers who crossed state lines, but they have since been expanded to assist seasonal farm workers and nonfarm workers employed in the food processing industry.

The federal government now spends over $600 million annually on 10 programs that serve the nation's Migrant and Seasonal Farm workers (MSFWs) and their families (Table 9). Four of these programs account for 88 percent of federal MSFW assistance expenditures. They provide education and health care services for farm worker children and educational and training services for farm workers (Figure 6). These programs evolved separately within federal agencies that have since the 1960s largely turned the micro-management of social service programs over to the states. However, farm worker (and Native American) assistance programs continue to have extensive federal involvement in the local delivery of services, largely because of the assumption that most farm workers continue to migrate across state lines.

Better coordination between farm worker services programs is needed to deal with the new strains on farm workers that are likely to result from NAFTA. Each program has a different definition of exactly who is eligible for its services. For example, the Migrant Education Program's normal requirement is that the child have parents who migrated across school district

Table 9
Federal Migrant and Seasonal Farm worker Programs*

Program	Department	Services	Funds ($Mil in FY92	Funds ($Mil in FY88	Percent Change
1. Migrant Education (ME)	Education	Funds state educational agencies (SEAs) to serve the children of migrants who are 3 to 21	$308.3	$269.0	14.6
2. Migrant Health (MH)	HHS	Funds clinics that provide primary health care for MSFWs and their dependents	57.7	43.5	32.6
3. Job Training Partnership Act 402 (JTPA 402)	Labor	Employment and training services for MSFWs and their dependents	77.6	65.6	18.3
4. Migrant Head Start (MHS)	HHS	Early childhood program for migrant children age 0 to 5	85.9	40.5	112.1
Total "Big Four" Programs			$529.5	$418.6	26.5
5. High-School Equivalency	Education	Funds colleges and universities to assist migrants and their dependents to get a high school diploma or equivalent	8.3	7.3	13.7
6. College Assistance Migrant Prog.	Education	Funds colleges and universities to assist migrants and their dependents to ease their transition into college	2.3	1.3	76.9
7. Migrant Even Start	Education	Funds programs to coordinate child and adult education for migrants	2.1		
8. Migrant vocational rehab.	Education	Funds programs for handicapped migrants	1.0	1.1	-9.1
9. Migrant Women, Infants, and Children (WIC)	USDA	Provides food and nutrition counseling to poor women and children	17.5	13.0	34.6
10. Migrant legal services	LSC	Provides legal services to MSFWs	10.8	9.4	14.9
11. Section 516 MSFW housing grants	USDA	Makes grants to nonprofit organizations for farm worker housing	11.0	11.2	-1.8
12. Section 514 MSFW housing loans	USDA	Makes loans to farmers and nonprofits for farm worker housing	16.3	11.4	42.9
13. Community Services Block Grants	HHS	Block grant funds reserved for farm workers	3.0	3.0	0.0
Subtotal			72.3	57.7	25.3
Total			601.8	476.3	26.3

*These programs serve only MSFWs or reserve a portion of a larger program for them. MSFWs also participate in other programs for which they qualify, including Food Stamps, AFDC, literacy programs, homeless programs, bilingual and immigrant education, and low income home energy assistance programs.

Source: AFOP Washington Newsline, November/December 1991, p. 3 and June 1988, p. 3, supplemented by interviews with agency officials.

Figure 6
The Big 4 Federal Farm Worker Assistance Programs

Migrant Education (ME). Since 1966, Congress has provided special supplementary funding to state educational agencies (SEAs) based on their respective populations of school-age children in migrant farm worker families. Early estimates of the number of ME children in each state relied on Labor Department data but ME counts are now based on the more detailed records of the Migrant Student Record Transfer System (MSRTS). Congress appropriated $286 million for Migrant Education in FY1992, yielding an average grant of about $500 per identified migrant child. SEAs have considerable flexibility in choosing how to use these supplements to enhance education for migrants.

Under the definition of migrant farm worker in the ME regulations, agriculture includes production and processing of crops, livestock, dairy products, and fisheries. Children are "currently migratory" if the family member made a qualifying move across school district lines in search of agricultural employment within the past 12 months. Thereafter, they may still receive ME services for up to five years as "formerly migratory," with the parents' consent. Currently migratory children are supposed to receive priority in ME programs, but the distinction often makes little difference in practice. ME has been criticized because each state's funding is based on the number of children recruited into the program, not the num[illegible] migrant students actually served. This situation was perhaps aggravated by a statutory change in 198[illegible]panded the age range of eligible children to ages 3-21, from the former range of 5-17. Several persons in[illegible]o questioned the lengthy "look-back" period ME employs, the longest of any MSFW service progra[illegible] in eligibility for up to six years after a qualifying move.

Migrant Health (MH). Migrant Health is the oldest of the special federal programs for migrants, dating to 1962. It funds some 400 clinic sites in "high-impact areas" for migrant activity, operated by 102 grantees (mostly private nonprofit organizations) in 43 states. The FY1991 appropriation was $51.7 million. These clinics were originally authorized to serve only migrants and their dependents, but in 1970 Congress authorized services also for seasonal farm worker families, when the HHS Secretary finds that the provision of such services would contribute to improving the health of migrants. Agriculture (defined to include crops but not livestock) must be the "principal" employment of MH beneficiaries. To qualify as a migrant, a worker must have established a temporary abode for such work within the past 24 months.

Migrant Head Start (MHS). Head Start, a comprehensive preschool child development program operated by the Department of Health and Human services (HHS), is perhaps the most effective of the programs launched by the War on Poverty. Migrant Head Start adapts the basic program to the special needs of migrant children, serving them from birth through age five. The 1990 appropriation of $60.4 million funded services to 23,649 children in 33 states, through the efforts of 23 MHS grantees, mostly private nonprofit organizations. No definitions of the key terms appear in statute or current regulations, but in practice MHS serves the children only of those primarily employed in farm work (crop and tree agriculture, not livestock). The family must have migrated within the last 12 months to be eligible and ordinarily must have an income below the federal poverty line.

Job Training (JTPA 402). The Department of Labor funds special job training programs for MSFWs and their dependents, through a nationally administered program established under Section 402 of the Job Training Partnership Act (JTPA). The FY 1991 appropriation was $70.3 million. Funds are first allocated among the states based on decennial census figures (adjusted), and then renewable two-year grants are awarded to organizations that will provide the services in the state. The grantees in 1991 were 29 private nonprofit organizations and five public bodies. The most expensive training component of the program usually assists farm workers in gaining the skills necessary to move into more stable, nonagricultural employment. But grantees may also spend up to 15 percent of their funds on "nontraining-related support services," a highly flexible category that can include transportation, health care, shelter, meals, and other services for MSFWs in the state.

The regulations provide for a 24-month look-back period, but an applicant must qualify as a seasonal farm worker by meeting more detailed specifications (primary employment in agriculture, with a minimum of 25 days worked for $400 earned) for any consecutive 12-month period within the past 24. Migrants are those seasonals who were unable to return to their domicile within the same day as a result of their employment. Agriculture includes crop and livestock work. JTPA beneficiaries must also meet an income test and must be authorized to work in this country.

Source: David Martin and Philip Martin. *Coordination of Migrant and Seasonal Farm worker Programs.* Report prepared for the Administrative Conference of the United States, December 1991.

lines in search of crop or livestock work, while Migrant Health serves migrant and seasonal workers whose principal employment is in crop agriculture. Such differences in eligibility for services are confusing to farm workers. They also lead each program to employ its own outreach and recruitment staff and to insist that any worker wanting services fill out their program's intake form. Furthermore, there is usually no federal, state, or local coordinating body to ensure that farm worker services are grouped together, so that a worker wanting services may have to travel long distances between e.g. health and training services. Finally, the lack of coordination means that a worker enrolled in one program may not get the services needed from another, so that, e.g. a worker may have to drop out of a training program because her children cannot get Head Start services.

As the farm work force comes to include more recently-arrived immigrants, many of whom will spend most of their working lives in the nonfarm labor market, these service programs need to be more responsive to the needs of immigrant farm workers, and help them to get the skills they need to climb the U.S. job ladder. The issue is what services should be provided to the immigrant workers who are likely to flow through agriculture's revolving door faster because of NAFTA. The single largest assistance program, the Migrant Education Program (MEP), transfers half of all federal farm worker assistance monies to state educational agencies to serve mostly the children of farm workers who once migrated but no longer do.

Since its mid-1960s beginnings, the MEP has been the "supplement to all other supplements" for migrant farm worker children,. This means that state and local education funds were spent first, then federal funds available for poor, bilingual, or otherwise disadvantaged children, and finally MEP funds were spent to provide whatever additional services were needed to overcome the educational due to migration. MEP allocates its funds for each child identified by local school districts, not per child served, and services under this program are often supplementary counseling for 6 to 12 year olds. It may be time to rethink the services offered under this program.

The Job Training and Partnership Act's Section 402 programs changed their goals in the 1980s. Until then, they focused on helping MSFWs to get out of agriculture. Today, they help farm workers to improve themselves within or outside agriculture. These 402 programs continue to offer intensive services to a relative handful of workers. Instead of providing English language skills to as many farm workers as possible, so that they can obtain training in general programs, including those offered by employers, 402 programs tend to provide intensive skills training to a handful of farm workers. This may have to change as the number of farm workers needing assistance increases because of NAFTA.

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FOOTNOTES

[1] Presidents Bush and Salinas de Gortari endorsed a bilateral FTA on June 10, 1990. On February 5, 1991, Canada joined the negotiations for the renamed NAFTA. Negotiations began on June 12, 1991.

There are conflicting predictions about the likelihood of Congress approving a NAFTA in 1992. President Bush during the spring and summer of 1992 ordered an acceleration of NAFTA negotiations so that Congress could approve a pact before the November 1992 elections, but many observers predict that Congress will not deal with any draft NAFTA agreement until 1993.

[2] The United States labor force in January 1992 included almost 10 million Hispanic-origin workers; they were about 8 percent of the total labor force. The Hispanic labor force, which is 2/3 Mexican-origin, is growing faster than the U.S. labor force, about 1.1 percent between 1991 and 1992 versus 1 percent for the total labor force. The Current Population Survey estimates that a peak 1.7 million wage and salary workers were employed in U.S. agriculture in September 1991; the total number of persons employed sometime during the year in U.S. agriculture is 2.25 to 3 million.

[3] Luis Tellez, the Undersecretary of Planning for Mexico's Ministry of Agriculture and Hydraulic Resources, predicts that 1 million Mexicans will leave the land each year or 15 million Mexicans will leave rural areas "within a decade or two." *New York Times*, Nov. 27, 1991, p. A1. PRD Presidential candidate Cauhtemoc Cardenas predicted in February 1992 that 2 million families or 10 million people will leave rural areas of Mexico in the 1990s, with perhaps half going to the United States.

[4] The INS reports that the U.S. admitted 7.3 million immigrants between 1981 and 1990, including 1.4 million of the almost 3 million aliens legalized under IRCA. If these temporary residents are included, as well as asylees, and illegal aliens who arrived in the 1980s but are not (yet) recognized as immigrants, then the net inflow of broadly defined immigrants to the U.S. during the 1980s is at least 9 million.

Because of IRCA legalization, over one-third of the 1980s immigrants were considered admitted in 1989 and 1990. About 41 percent of the 2.6 million immigrants admitted in 1989-1990 were from Mexico.

[5] These examples were reported at an April 23-24, 1992 conference, Beyond the Free Trade Agreement, held in Ventura, CA.

[6] Bracero means day laborer; in Mexico, Bracero is often used to refer to strong arms in the same way that U.S. farmworkers are termed hired hands.

[7] Mexico expressed an interest in a temporary worker program as part of NAFTA in 1989 and 1990, but the idea was rebuffed by U.S. officials. Cornelius, 1991, p. 2.

[8] About 600,000 legal immigrants entered the United States annually during the 1980s, and 50 percent or 300,000 joined the labor force, including about five percent (150,000 of three million) who had farming occupations (U.S. Dept. of Labor, ILAB, The Effects of Immigration on the U.S. Economy, 1989, pp. 25 and 27). About 80 percent of the 1.8 million general legalization applicants were in the labor force, including 80,000 farmworkers, who were five percent of the 1.44 million general legalization applicants in the labor force, and all of the 1.3 million Special Agricultural Worker (SAW) applicants should have done farmwork in the mid-1980s. The Immigration and Naturalization Service indicated in March 1992 that it would approve only 925,000 or 73 percent of these SAW applications.

[9] Over 90 percent of all SAW applicants were from Western Hemisphere countries, including 82 percent from Mexico and 4 percent from Central American countries such as El Salvador.

[10] The NAWS covers SAS agriculture, which by regulation and court decision has been expanded to include most of U.S. crop agriculture. IRCA states that SAS is to be defined by commodity (perishable) and activity (fieldwork), so that SAW applicants had to be illegal aliens who performed or supervised fieldwork in 1985-86 related to planting, cultural practices, cultivating, growing, and harvesting fruits and vegetables of every kind and "other perishable commodities." The definition of "perishable commodity" was stretched first by USDA and then by courts to include virtually all plants grown for human food (except sugar cane) and many nonedible plants, such as cotton, Christmas trees, cut flowers, sod grass, and Spanish reeds. Fieldworkers include all of the paid hand- or machine-operator workers involved with these SAS commodities, the supervisors of field workers and equipment operators, mechanics who repair machinery, and pilots who spray crops. These elastic definitions mean that even e.g. an illegal Central American refugee paid to work 90 days in a church's vegetable garden could qualify as a SAW applicant. The youngest SAW approved was a 3 year old illegal alien child who helped his parents to bunch onions in 1985-86.

[11] This table is based on quarterly interviews with 7242 farmworkers(for some questions) employed in Seasonal Agricultural Services (SAS) between the fall of 1989 and 1991. SAS is most of crop agriculture: it probably includes 80 percent of all farmworkers, 70 percent of all farm jobs, and 60 percent of farm wages paid.

[12] There are a variety of estimates of the percentage of U.S. farmworkers who are currently unauthorized. In hearings and case studies conducted by or for the Commission on Agricultural Workers (CAW) in 1990 and 1991, estimates of 10 to 40 percent unauthorized wokers were made. However, it should be emphasized that many of the estimates offered are highly speculative, and in some instances are made by persons who have an incentive to overestimate the percentage(e.g. employers who are asked "if IRCA were strictly enforced, would you face a shortage of labor ?" have an incentive to overestimate their employment of unauthorized workers if they are also advocating a program which would give them easy access to legal foreign farmworkers in the event that unauthorized workers were no longer available). Many casual estimates and case study reports also refer only to harvest workers, who in the NAWS were only 42 percent of all wokers(840,000, coincidently, the number of harvest workers is equal to the number of migrant workers in the NAWS). Even if 40 percent of the harvest workers were uauthorized, as is sometimes asserted, 40 percent unauthorized times 42 percent harvesters means that only 17 percent of the total farm workforce is unauthorized.

The current total SAS workforce is probably 10 to 20 percent unauthorized. However, there is general agreement that the unauthorized percentage is increasing, and that NAFTA may intensify the factors which push rural Mexicans into rural America, and thus push the unauthorized percentage of the U.S. farm workforce higher in the 1990s.

[13] Many of the field crop hired workers in the COA are artificial in the sense that, if the farm family has a good year, the older children are paid wages to shift net farm income into lower income tax brackets. This shifting of farm income into lower tax brackets may also occur in the CPS, and explain why farmworkers are distributed in that survey in a fashion similar to family farms. No Unemployment Insurance or other payroll taxes are paid on these wages.

[14] This table is based on quarterly interviews with 7242 farmworkers (for some questions) employed in Seasonal Agricultural Services (SAS) between the fall of 1989 and 1991. SAS is most of crop agriculture: it probably includes 80 percent of all farmworkers, 70 percent of all farm jobs, and 60 percent of farm wages paid.

[15] Antonio Yúnez-Naude, "Towards a Free Trade Agreement Between Mexico and the U.S.A.: Effects on Mexican Primary, Non-Mineral Sectors," unpublished paper, Centro de Estudios Económicos, El Colegio de México, April, 1991, p. 5. See also: Antonio Yúnez-Naude and Ramón Blanno-Jasso, "Mexican Foreign Trade of Agriucltural and Livestock Products: Tendencies and Impacts of Alternative Policies, in Sergio Díaz-Briquets and Sidney Weintraub, eds., *Regional and Sectoral Development in Mexico as Alternatives to Migration* (Boulder, Col.: Westview, 1991, pp. 239-273.

[16] The World Bank reports that 23 percent of Mexico's 1990 population of 86.3 million live in Mexico City or 20 million. However, the 1990 Mexican COP found only 15 million people in Mexico City, and 81.1 million Mexicans. Most observers believe that the 1990 Mexican COP missed 2 to 6 million people.

[17] Wall Street Journal, May 15, 1985, p. 34.

[18] Illegal Aliens: Influence of Illegal Workers on Wages and Working Conditions of Legal Workers (Washington: GAO, PEMD-88-13BR, 1988) pp. 40-1.

[19] Harry Bernstein, Los Angeles Times, August 15, 1989, Part IV, p. 19.

[20] Thomas Bailey, "A Case Study of Immigrants in the Restaurant Industry," Industrial Relations Vol. 24, Spring 1985, pp. 205-221.

[21] The FLA was comprised of 22 organizations, from the CA Grape and Tree Fruit League to the Washington Asparagus Growers. Many farmers belonged to 2 or more of the organizations that in turn comprised the FLA.

[22] See Carol Zabin, ed., *Migración oaxaqueña a los campos agrícolas de California: un diálogo* (La Jolla, Calif.: Center for U.S.-Mexican Studies, University of California-San Diego, and Instituto Nacional Indigenista, México, 1991).

[23] The model is described in Raul Hinojosa-Ojeda and Sherman Robinson, "Alternative Scenarios of U.S.-Mexican Integration: A Computable CGE Approach," UCB-ARE Working Paper 609, April 1991. Of the projected 600,000 additional U.S. bound migrant workers, 89 percent are expected to go to urban U.S. labor markets.

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